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MEDICAL PRIZE ESSAY.

ART. I.—*An Essay on the Diseases of Children.* By M. PAGE, M. D., of Richmond, Virginia.

> At Venus Ascanio placidam per membra quietem
> Irrigat, et fotum gremio Dea tollit in altos
> Idaliæ lucos, ubi mollis amaracus illum
> Floribus, et dulci aspirans complectitur.—*Æneidos*, lib. 1. v. 691.

OF the diseases which afflict mankind, there are probably none, more deeply interesting, than those peculiarly incident on childhood and infancy. The anxious solicitude of parents and friends; the utter helplessness of the sufferers; oftentimes the inability to explain their sensations, otherwise than by plaints and looks of distress; the attenuated form; the pallid feature, and the sunken eye, call strongly for sympathy, and causes the physician to feel painfully his responsibility.

It has been frequently asserted, that, in infantile diseases, medicine could be of little service, on account of the difficulty of ascertaining the cause and seat of ill, from the patient's own description. This we conceive to be erroneous. If the child have attained sufficient age, facilities are unquestionably afforded, and it would be altogether inexcusable, not to improve them; but even in such cases, we are more influenced by symptoms, and such information as the mother is able to afford, in arriving at proper conclusions.

It has never appeared to us so difficult, to read the silent language of these little ones. Their gestures are natural and expressive; their countenances inform us, and if due regard

is had to the previous habits, and general management of the child; to its food and egesta; to the skin, eye, pulse, and all those other signs which meet the observation of the careful practitioner, there can be little reason to start at difficulties in diagnostic pathology.

Although very many infants may literally be born with the seeds of death; as from malformation, hereditary taint, &c.; still, doubtless, too much is yielded, and many are lost, by untimely despondency. Benevolence should never despond, children are more tenacious of life than adults; in them, the springs of existence are new, and answer well to the touch of experience and skill.

In the following article, we do not intend a laboured, or general account of all the diseases which may occur during this interesting period. It is our design only to notice those which are rendered important by their frequent appearance; those which are particularly alarming in their nature, and some which have not hitherto received due consideration. We shall reflect on the management and habits of children, their peculiarities of structure, causes of disease in them, and how these diseases are modified by varying circumstances.

Diseases of children may be divided, into such as depend upon excitability, and the action of morbid causes; and those arising from infantile peculiarities, and hereditary predisposition.

When the immediate business of the accoucheur is ended, the child should be dressed in the simplest and lightest manner. The clothing may consist of a shirt of soft linen, fitted to the body, and over this, a neat loose wrapper of fine flannel. Complicated dresses, and such as require bodices and girdles, ought to be avoided; for they are attended with numerous disadvantages, keeping up irregular temperature, and acting as ligatures around the frame; thus impeding circulation and digestion, producing partial perspiration; and by obstructing respiration.

A common practice of bandaging up the abdomen, cannot be too much reprobated. A soft roller to protect the wounded umbilicus, is all which is required. The diaper is then applied, and worn as loosely as is consistent with keeping it in its place. Strictest cleanliness is always to be observed in every part of the management. The child should be well sponged night and morning, at first with tepid, afterwards with natural water; and when he is from six weeks to three months old, according to his strength, the cold bath may be habitually used. The diaper is to be changed frequently, and the parts examined and kept perfectly dry. At such times, it will be

expedient to establish habits of regularity with regard to its bowels; and with this view, it may be held at intervals over the proper vessel.

During this early period, children are altogether dependent on the nurse for exercise. This may be given by walking about the room, handling, using friction to the abdomen, and afterwards gently tossing and patting them. When they are able to sit alone, they should be allowed to make moderate exertion, in moving about the floor, while reaching after their favourite key or ivory ring. Care must be taken with the temperature of the room. Close, confined apartments are exceedingly injurious, for they depress the strength and retard the growth of the infant, rendering it puny and delicate. On the other hand, if the temperature be too low, or the child exposed to currents of cold or damp air, we shall have him incommoded by catarrh, distressing bowel affections, and even convulsions. Perhaps the best criterion for proper temperature, will be the feeling of the mother, provided she is doing well. Nurses imagine that infants are particularly liable to colds in the head, and to prevent it, often make use of pads and thick under-caps, which is clearly improper. At first a very light under cap of flannel or cotton my be used, but this should soon be left off, and indeed, after a few months, the child will do better without a cap at all; for the head is liable, at all events, to be too warm, and by leaving off caps early, the healthy growth of hair is promoted.

The diet of a child should be extremely simple, and, therefore, much need not be said on the subject, except in the way of caution, which will be done, when we come to treat of those diseases, traceable to the stomach. Within the first two or three months, there is, unquestionably, nothing so well suited as the milk of the mother. It is often difficult to prevent the nurse, in mistaken kindness, from feeding the child too much, and with improper aliment, under the impression it will cause it to grow fast and fatten. This idea is erroneous, for instead of thriving, he is incommoded with affections of the stomach and bowels, becomes feverish, and falls off.

When, from any cause, the mother cannot nourish her offspring, it becomes proper to look out for a wet nurse, whose child is nearly of the same age. She should be a young and healthy woman, cheerful and well-disposed. If it is necessary to bring the child up by the hand, as the phrase is, we choose such diet as most resembles that pointed out by nature. The milk of the woman contains less of the caseus principle, but more cream than that of the cow, which may be taken as a

standard. The whey and saccharine parts are also more abundant. Acids do not cause it to coagulate, and it very slowly passes, either to the vinous, acetous or putrefactive fermentation. Human milk is imitated, therefore, by adding to the milk of the cow, an equal quantity of newly made whey; a fifth or sixth part of good fresh cream; sweetening the whole to the taste, with well refined loaf sugar. If the child be strong enough, it is better to allow him to suck the spout bottle, than to feed with the spoon, for in the ordinary method of holding him, and filling the mouth, he cannot show when he has enough. As he grows older, he may be used to a little pap; and by degrees, to thin soups, and articles of that nature. When he has teeth for mastication, a moderate quantity of solid animal food may be given; thus gradually changing the diet, until the time arrives for weaning. The average time for this is about twelve months, with attention to circumstances: it should never be made to interfere with the process of dentition.

After weaning, those measures should be continued, which are best calculated to impart strength and tone to the constitution: the plentiful use of the cold bath and cleanliness; free air and exercise, with plain wholesome food. As soon as children are able to walk, they are naturally disposed to be much in motion; it is proper, at this period, to send them out frequently to walk or ride. Their toys and playthings ought to be such as require some little exertion in rolling or following; and if the house is large enough, a nursery, or play-room, should be set apart, where they may feel unrestrained, under the superintendence of a careful person. Thus, their ideas will expand, and strength of body and mind grow in equal balance. They may be trained, and their manners formed at proper times; but we have generally observed, that those children thrive best, who enjoy a judicious allowance of indulgence and liberty.

So far, our attention has been fixed on the management and habits of children in health: before taking their diseases into consideration, it may be proper to notice the peculiarities of structure, observable in infancy, and a few other points of importance.

If a child have died suddenly, from no wasting disease, and the body be examined, its general aspect is florid. This is particularly the case with the lungs, and the cortical parts of the viscera, as of the kindney. The solids possess more gelatine, and the fluids more lymph. Its internal coats and faciæ secrete more, and the whole secerning apparatus appear to have

been larger, and more active in proportion, than in a subject more advanced in life. The glands are looser in structure, and in a state of greater or less development. The nerves are much softer, or more pulpy and less distinctly fibrous; but of these, we shall speak more hereafter. The thymus gland and capsulæ renales, which have served the fœtus, are found wasting away. The peculiarities of the heart and liver will be noticed in considering the circulation.

The circulation of the blood in young children, appears to differ from that of after life, in several respects. While some of the vessels are larger in proportion in them, others are much smaller, and this has given rise to loose and unphilosophic language amongst physiologists, when they speak of a want of balance in their systems; for, unquestionably, nature has furnished the most just and perfect regulation, for purposes of growth and general development. In adults, there is a very exact relation to be observed in the different vessels. The wear of life is to be supplied, and when this is effected, there are corresponding systems to remove any redundancy; but in children who are growing fast, a greater proportional supply is requisite, and we find greater activity in the arterial system. Blood is thrown into all parts of the body, in volumes, equal to the capacity of the vessels, and this capacity is regulated by the size and consequence of the part to be supplied. The body of a child at birth appears to have been unequally developed; the head, for instance, is very large, and owing to the great bulk of the liver, the abdomen is puffed and pendulous, while the inferior extremities are small and apparently shrivelled, on account of the diversion of blood from the iliac to the umbilical arteries, peculiar to fœtal circulation.

It is evident, that the growth of a child's body must be unequal, whilst it is arriving at adult proportions; that is, that some parts, as the head and some of the viscera, are nearly stationary, while the limbs and trunk are filling; so that, as the blood is distributed to all parts, the returning vessels are larger from those where least growth is required; and smaller where the blood is to be, as it were, retarded, for purposes of assimilation. As the child approaches the form it is ultimately to wear, these peculiarities gradually lessen, and are lost.

It is owing to this modified circulation, that the countenances of healthy children are florid, and that they are so liable to hemorrhages. Our views on this subject will be enlightened, if we examine the liver and heart of a fœtus, and mark the course of circulation as it flowed in him; and this

we shall attempt, without stopping to comment on the numberless absurdities which anatomists have fallen upon.

In describing a circle, we always feel some hesitation, where it is best to commence; and in tracing the flow of blood, this difficulty presents itself. But whether we choose the heart, which appears to be the source of life; or the the placenta, which in reality first furnishes the blood; it is easy to follow the current, until we arrive at the point of setting out. Although there are some inconveniences, we think, on the whole, it is is better to begin at the placenta, as through it, blood is introduced into the fœtal system.

The umbilical vein, then, springing from the placenta, enters the navel, and passes through the duplication of the ligamentum latum suspensorium, or falciforme ligament, into the fossa umbilicalis of the liver; thence, proceeding along the great fossa, it gives off branches to the right and left, thus subserving the purpose of an artery, till it arrives at the fissure on the posterior part of the liver, where it receives the name of ductus venosus; through which a portion of blood is transmitted, immediately to the right side of the heart. The fœtal liver is exceedingly vascular, and of prodigious size; occupying, at the third or fourth month, almost all the abdomen; for it reaches to the umbilicus, covers the stomach, and hanging over on the left side, comes in contact with the spleen.

It possesses four systems of blood-vessels. Besides the set we have mentioned, it receives the arteria hepatica for its proper support; the vena portæ, hereafter to support the biliary secretion; and the venæ cavæ hepaticæ, which returns the blood from the portal and umbilical systems.

If to these vessels are added the lymphatics, the biliary ducts, and nerves, a just idea may be formed of the substance and vascularity of this viscus.

It may appear singular, that the liver should receive blood from opposite directions; the left side being supplied by the umbilical vein; and the right, by the vena portæ; but after birth, when the umbilical vein and ductus venosus are obliterated, its branches are filled from the portal system; so that now, the current sets in one direction; for the hepatic artery and portal vein, before entering the liver, are contained in the same sheath, and pass on, encircling one another. The vena portarum enters the liver at the porta, or that sinus, formed between the lobulus spigelii and processus caudatus; and passes to the great transverse fissure, which runs above the lobulus spigelii and lobulus quadratus; the processus caudatus and the lobulus lobi sinistri. At this point it branches, send-

ing its limbs to the right and left side. The right branch is freely distributed to its side; but the left, in the fœtus, is continuous with, and considered as a branch of the umbilical vein. It is through this, that the branches of the umbilical are supplied and kept of use, after the cord is tied; the blood taking a retrograde course. We have seen, that the liver is most abundantly supplied with blood: that volume which was retarded in its progress, and made to circulate through the vessels of this viscus, is collected by means of the venæ cavæ hepaticæ, and poured into the great ascending cava; while a larger stream finds a more direct passage through the ductus venosus, and with little or no alteration from passing through the cord, is emptied into the cava, at a point higher up, where it dilates and joins the right auricle of the heart.

Pure arterial blood has been thus traced from the placenta, collecting in, and flowing gently through the liver; until as from a reservoir, it finds its way to the heart. We see the convenience of this arrangement, for as the surfaces of the maternal and fœtal placentæ are applied together in such a pencillated manner as to favour a process something like secretion; it is evident, that without the assistance of the large liver, as a receiver, the supply of placental blood could not always be proportioned to the demands of the child.

As there is very little bile secreted at this period, it will be seen that the proper vessels of the portal system, before entering the liver, are comparatively small; and that the blood in them passes, as it were, sluggishly: but after uniting and reaching the transverse fissure, the vena portarum divides; each branch showing nearly as large a caliber as the main trunk: and as we have shown that the left branch is continuous with a branch of the umbilical vein, it appears quite reasonable to suppose that the larger portion of blood, even in the portal veins of the right side, is derived from this source.

It cannot be supposed, that all this blood is destined to support the liver, merely, whilst it remains in it; for the hepatic artery, rising large and strong at the root of the arteria cœliaca, goes to feed the substance of the viscus: therefore it must be, that this great reservoir is intended to modify, in some measure, and control the circulating mass, throughout all the system. May it not also act by decarbonizing blood? The bowels of a child at birth are filled with a peculiar substance, and this meconium contains much of the carbonic acid gas. No doubt also, by nervous connexion, it has much to do with the principal viscera of the abdomen.

We proceed with the course of the blood. Instead of divid-

ing its powers between two circulating systems, as in the adult, the pulmonary and aortal; the fœtal heart bends all its energy, as a simple or single organ, in propelling its contents into one channel; and thus its force is, in proportion, greater than in the adult heart; for both auricles and both ventricles act at once, and on the same volume. The manner in which this unity of action is obtained, is simple and truly admirable. It will be seen how it is accomplished by means of the foramen ovale and the ductus arteriosus. The first of these is a slightly oval hole at the posterior part of the septum, which divides the two auricles. On opening the right auricle, this foramen is easily seen; and around it, we find a collection of muscular fibres, first noticed by Vieussens, and which he, pompously enough, published as the isthmus Vieussenii; but which appears to be only a collection of fibres, derived from the base of the columni, or musculi pectinati. It is sometimes called the columnæ foraminis ovalis, and serves to strengthen the hole; and perhaps to divert a portion of blood from its direct passage to the ventricle, causing it to pass through the foramen. On the left side of the septum, the probe raises a transparent membrane, so situated as to act as a valve, preventing the regurgitation of blood, and proving conclusively, that its flow is from the right to the left auricle. When the right auricle is filled from this arrangement, a portion of its contents passes through the direct passage into the right ventricle; but a large quantity finds its way through the foramen ovale into the left auricle. The contraction of the left auricle fills its left ventricle, from whence the aorta rises. That blood which was thrown into the right ventricle, on its contraction, rises into the root of the pulmonary artery; but as the lungs of the fœtus lie collapsed, a very small portion passes through them, and the principal jut is transmitted immediately to the aorta, by means of the great ductus arteriosus. Thus then it is clearly seen, that by the foramen ovale, the two auricles are made as one, and filled at the same time; by the ductus arteriosus, the two ventricles also act together, and are made as one; both throwing their blood into the aorta; and in this manner, the double heart, which has been prepared for after life, when blood must pass through the lungs, is made a single heart for the fœtus, whose blood is prepared by the mother. We cannot sufficiently admire the simplicity and wisdom of this structure, nor the ease with which nature changes the single fœtal heart into the perfect double heart of a breathing animal. For when air is admitted into the lungs, the contraction of the right ventricle fills the pulmonary artery, which is better situated to receive it, than the duc-

tus arteriosus; this duct, deprived of blood and pressed upon by the expanded lungs, closes; while the volume, passing through its new route, is acted upon in the lungs, relieved of carbon, supplied with oxygen, and returned by the pulmonary veins to the left auricle; filling this in a direction opposite to the former current; the valve of the foramen ovale is pressed down, and then all the contents of the right auricle must pass into its proper ventricle; thence, into the lungs; devoting the right side of the heart, to the lesser circulation; while the left auricle and its ventricle are left to act alone on the aorta; thus becoming the centre of the greater circulation, or that of the body.

The next peculiarity occurs in the aorta, after its bifurcation, and was hinted at in a former part of this paper, whilst speaking of the general appearance of children. We remarked on the shrivelled and wasted state of the lower extremities, or to use more correct language, on their want of growth: and this we apprehend to be the reason. The iliac arteries, as given off in the fœtus, are very small; so small, that we only recognise them afterwards in the adult subject, by their location and arrangement. Of course, the corresponding veins are small, and the supply of blood wholly inadequate to rapid growth. Even for several years after birth, the legs of children grow less in proportion than their trunks: and this is one of the peculiarities which has been called a want of balance by writers. After the iliacs have been given off, the two main branches of the common aorta dip into the pelvis; and again rising on the side of the bladder, make their way towards the navel; where joining the umbilical vein, they entwine, like the tendril, and pass on in a common sheath to the placenta.

After what has been said, it cannot be very difficult to understand what changes take place in the circulation after birth; and in what respects, the vessels of a growing child, differ from those of the adult.

We are to treat next of nervous influence. Excitability is so intimately concerned with the diseases of children, either from being immediately acted upon, or from involving sympathy, that it is proper to bestow on it some attention; for, as the moral world would be perfectly inactive without the play and stimulus of the passions, for good or ill; so would the physical machine be, without those peculiar stimuli, which act upon, and give tone and function to the peculiar organs of which it is composed; and it would be unreasonable to expect to comprehend our subject, without first attending to this doctrine of excitement.

As the centre and source of motion and will, observation naturally turns to the brain and spinal marrow. From these all the nerves have their origin, and by them the electric chain of sympathy and association is extended to every part of the body.

These nerves may be considered under two great classes, those of motion, and those of sense. The former embrace both voluntary and involuntary motion; the latter, sensation and intelligence. Impressions are communicated to a nerve, either at its origin, as when a blow upon the head produces an abscess in the liver, or sickness of the stomach; or in its course, as when an injury of the ulna at the elbow is felt in the hand; or one on the knee, sends a tingling jar throughout the system; or at its sentient extremity, or termination, as is perceived in handling a body; or when the fibres of the par vagum in the stomach are acted upon, stimulating the brain, and through it, the whole body. Nerves of intelligence derive their excitement from peculiar stimuli, as the optic, from light and colour; the auditory, or seventh pair, from sound.

We shall leave a general view of the nerves to the general anatomist; and at present, only trace those which are necessary to our purpose. These are such as give sympathetic action, and such as bring the thoracic, abdominal, and pelvic viscera, under the influence of the brain and spinal marrow; and connecting them with the nerves of the face and mouth.

First, of the sixth pair, or the abducentes externi. This nerve arises between the tuber annulare, and the corpus pyramidale, and is noticed as a part of the great sympathetic; for after passing through the cavernous sinus, it gives off filaments, which descend along the course of the carotid artery, until, uniting with a branch of the vidian nerve, it becomes the origin of the sympathetic. After this, the body of the sixth passes on to the abductor muscle of the eye, having entered the orbit through the foramen lacerum, in company with the third and fourth nerves, and also, the first branch of the fifth pair.

The grand sympathetic nerve, as has been said, commences in filaments, given off by the sixth pair, after its passage through the cavernous sinus. These are increased by other filaments from the vidian branch of the fifth pair, so that in calculating the origin of the sympathetic, from the brain, we have only to sum up the origins of the fifth and sixth pair. At the base of the skull, the nerve thus composed, is prodigiously enlarged by meeting the cervical nerves and the many branches of the eighth pair, together with branches from the

seventh and ninth. Thus is formed the superior cervical ganglion, which is conical in shape, and extends from the first to the transverse process of the third vertebra. After this, the sympathetic is again small, in passing down near the spine, freely uniting with its nerves, and giving off numerous twigs, in every direction. The inferior cervical ganglion, is situated at the entrance of the thorax, and there is often a middle ganglion, but this last is irregular. These communicate with most of the nerves of the body. In passing through the thorax, it receives branches from the splanchnic, and supplies the contained parts; thence proceeding to form the solar and other plexæ, for the regulation of the viscera.

The eighth pair of nerves are also very important. They spring from the medulla oblongata, and soon separate into three parts. These are the glosso pharyngeal, the par vagum, and the spinal, or accessary nerve of Willis. The first perforates the dura mater by itself, and then leaves the cranium along with the other branches of the eighth pair; but in many cases, it makes its exit through a distinct foramen. In its passage, it yields branches to the internal carotid artery: to the styloid, and digastric muscles; and goes to the posterior part of the tongue, after sending off other branches, which, uniting with twigs from the par vagum and nerve of Willis, are distributed to the pharynx.

The par vagum is the most important nerve, which arises from the medulla oblongata. In passing from the skull, it is near the jugular vein, and only separated from it by a thin plate of bone. It immediately becomes connected with a mass of nerves, formed by the sympathetic, the other branch of the eighth pair, and the portio dura of the seventh. This ganglion was mentioned with the sympathetic nerve. Here there appears to be a free interchange of fibres between them, for purposes of association. In passing down the neck, the par vagum sends branches to all the sympathetic ganglia. Besides supplying the two pharyngeal, the internal and external laryngeal, and the thyroideal nerves, it may be said to form a net-work in its course, yielding twigs to all the contiguous parts. Then joining the anterior and posterior plexus gulæ; the anterior and posterior pulmonic; the cardiac, gastric, hepatic, and splenic ganglia, it goes to the great solar plexus; from which point, in company with the branches of the great sympathetic, it is distributed to the abdominal and pelvic viscera.

The third branch of the eighth pair, or nerve of Willis, leaves the medulla so low down, as to be called a spinal nerve.

It rises through the foramen magnum into the cranium and then joins the par vagum, with which it again descends. At the base of the skull, it detaches itself, and is in contact with the ninth pair; afterwards with the third and fourth cervical nerves, and is then distributed to the muscles on the back part of the neck and shoulder.

Thus, we come to view the intimate connexion existing between different parts of the system; for these nerves communicate, directly or indirectly, with all others; giving unison of action, and forming into one, as it were, the various circles of sympathy. Each system, we suppose, to require its peculiar stimuli, and to be acted on in proportion to the degree in which it is applied; the length of time it is kept up; the present state of susceptibility of the organ or organs, caused by the nature of the stimulus; and by the morbid action of other systems of the body; for these muturally act and re-act upon each other. Excitability, then, is that state of an organ or system, which causes it to respond to natural impressions. These impressions are either morbid or healthful. The first occasion irritation, and are such as morbid poisons, whose action produces fever; an old sore or carious bone, giving rise to hectic; the action of a foreign body, as from a catheter in the urethra, causing chillness, cold perspiration, sickness of stomach, and fainting. Violent passions agitating the brain, affect the stomach through the intervention of the eighth pair of nerves. Intense thought, through the same medium, causes that organ to be oppressed with acid, and brings on indigestion, nervous headachs, and all the symptoms of dyspepsia. Fear and apprehension have been known so to operate on the capillaries of the head, through nervous sympathy, as to blanch the hair. Thus, irritants are either mental or physical.

Healthful association is equally apparent. When the mind is serene and cheerful, all the functions are performed regularly and in order, and agreeable impressions made upon it are extended to the pleasures of sense.

If its proper stimulus be applied to an organ it takes on its peculiar action, as is seen in conception, and one organ is often excited by the action of another, as when, during the period of utero gestation, the mammillary glands enlarge, and assume that condition which fits them for the secretion of milk. This continuous action is also to be observed in the diaphragm, when it is thrown into action by tickling the olfactory nerve; and also, by the readiness with which a sneezing fit is arrested by pressure upon the upper lip. These reflections lead us to

understand the state and associations of the different structures, and how they are effected by natural causes.

It is equally evident that the impression produced by a given cause, is in proportion to the degree in which it is present, and the length of time the action is maintained. Thus some morbid agents exert so powerful an influence on the nervous system, as to overcome its powers for reaction, and death is the consequence. This is observed in some poisons, as prussic acid, the venom of some reptiles, and, indeed, cases frequently occur, in which miasm becomes so concentrated that the vital energy cannot bear up against it, and the patient dies without reaction. The same state of things may be produced by injuries; if the shock be violent, as if a man loses his leg by a cannon shot, the stump does not bleed, because the vessels are paralyzed, yet he sinks, his pulses fall, and he dies in a state of collapse. If, on the other hand, the agent does not act with a power sufficient to prostrate, the vis vitæ, or conservatrix, is seen struggling under it, and eventually rising above its proper balance; or fever supervenes. This is exemplified in ordinary bilious attacks, for the first effect of miasma, is to render the patient listless, lethargic, and heavy, then chilly and anxious, till what is called the cold stage of fever is established; after which reaction comes on, and hurries to the opposite extreme.

So with injuries; after amputation, the system sinks, for a time, under pain and exhaustion; then fever rises, or strong reaction, and the arteries of the part, which were in a measure paralyzed, are found beating violently. A case of aneurism is even more striking; suppose it to have been popliteal, and the artery secured; the tumour ceases to pulsate, the limb becomes cold and clammy, breaking out with cold perspiration; no motion is felt in the tibial artery, the patient is seized with shivering, and fancies himself about to die; after a time, however, blood finds its way through the arterial branches, pulsation is discovered in the instep, nervous energy is restored, and strong reaction takes place; until a thermometer shows the temperature of the affected leg to be far above even fever heat.

We have said, that excitability was increased by a continuance of morbid impressions, even where these were originally moderate; for when an organ is injuriously affected, its perverted influence is extended to all its connexions; these in turn react upon it, and also disturb other systems, till ultimately all are more or less involved; then disease breaks out,

or the seminis morbi lie dormant, until the powers of the constitution, or the vis medicatrix, has time to cast them out. This irritable state differs in different persons, and depends on their original excitability.

Such a view allows us to understand the reason why a wound will often heal kindly in one person; while in another, a simple scratch or puncture may cause ulceration and sloughing, or tetanus and death. It will also show why the same individual is more affected by injuries at one time than at another, in proportion as he has been more or less exposed to noxious influences; for a student who enters as dresser to an almshouse, or frequents theatres for dissection, may, while a 'freshman,' sustain cuts and punctures with impunity, which, later in the season, are attended with serious consequences. A few cases will make this position perfectly clear:—

Case. A healthy farmer was thrown from his horse, whilst driving his wagon, heavily loaded with corn. He fell in such a manner, that the wheel passed over his arm; producing a simple fracture of the humeris, and a compound comminuted fracture of the radius and ulna. The case was managed by a gentleman unskilled in surgery, and about five months after, when we first saw him, the arm presented an exceedingly bad appearance. An artificial joint had formed in the os humeri, and the lower bones were united so crookedly, that the whole forearm was entirely deformed; showing, that should the artificial joint be cured, the arm could be of no manner of use. The case was explained, and he requested amputation, after which recovery followed without any unpleasant symptom.

Case. A healthy, strong child, aged about three years, had been left in a room, and whilst playing near the fire, had its clothes to catch. Before assistance offered, it was so badly burned, that no one could venture to hope for recovery. We found her right side so much injured, that a probe might touch the rib in one place; the lower extremity was peeled to the knee on its outer side, and much burned within; both arms had likewise suffered severely. The child had been reared in the country, and theretofore uniformly healthy; and such was the advantage of this, that after great care, her wounds sloughed, and she ultimately got well.—These two persons had previously enjoyed that healthful balance of excitability, which enabled them to bear their accidents.

The circumstances of the following cases were different, and produced different results.

Case. A servant-boy, aged about fourteen years, used to bad air and unwholesome food, sustained a slight accident on

the ankle, in walking. No attention was paid to it at first, and in time it festered, ulcerated, and sloughed. He was then treated with domestic practice, but no notice taken of constitutional symptoms. Ultimately, gangrene supervened. After a few weeks, a skilful physician of this city was requested to see him, from whom we received an account of the case, when he invited us to witness the operation, which was then evidently necessary. At this time, much of the integument had fallen away, and such destruction had taken place, even in the cartilages of the joint, that the probe passed freely between the tarsal bones; the whole being bathed in pus. So great was the degree of irritability and hectic, the boy had wasted to a shadow. This case was removed to a more healthy situation, and with proper management recovered.

Case. A small boy, used to one of the crowded tobacco factories of this city, was vaccinated with matter which succeeded perfectly in other situations. After the third day the arm festered, and ran on to high inflammation, losing all varioloid character; the limb swelled exceedingly, and the constitution became so irritable, that no remedy produced good effects. This child was removed, and the mildest treatment cured him.

Case. We visited a lad, aged about seventeen years, belonging to another factory. His body was covered with a violent eruption, and studded here and there with imposthumes. Physic had been used, but the symptoms continued to get worse. He was sent to a more healthy part of the town, and slight attention to regimen and medicine produced speedy relief.

Thus we see the necessity of attending to the general habits of a patient, before his case can be successfully treated.

Such views render the management of the diseases of children much more simple than they would otherwise appear; for, though the great mobility possessed by them causes one symptom speedily to induce another, till the affection appears complicated, it is by no means impossible to trace them to a fixed and known source. In infancy, the number of diseases is comparatively limited; their causes uniform, and the manner of treating them, for the most part, simple and tolerably certain.

The predisposing causes of disease in children may be found in their great excitability, and irritation of the nervous system, proved by the tendency to convulsions; the general laxity and delicacy of muscular fibre, seen in prolapsus ani; their skins are soft, favouring absorption; their bowels possess peculiar mo-

bility, though in disease, they often take on false action, and are torpid and hard to be acted upon. Exciting causes are such as these: injuries, malformation, unhealthy parents, a want of cleanliness, exposure, improper food, air, exercise, dentition, &c. &c.

In difficult labours, asphyxia may be produced, either by having the head too much pressed upon, by strangulation of the umbilical cord, or by having the passage of the trachea obstructed by a viscid substance, composed of mucus and liquor amnii. In such cases, the attendants should not be in too much haste to separate the funis umbilicalis. So long as this pulsates, the infant may be kept alive, even although it does not breathe. If the difficulty arise from obstructions in the trachea, the mouth should be cleansed, and the child placed so as to favour the escape of any fluid contained in it; while the diaphragm and pectoral muscles are excited by gentle manipulation.

Vital energy may be roused by slight friction with warm brandy, or spirit of hartshorn, to the temples, epigastric region, and extremities. When these means fail, an attempt should be made to inflate the lungs, to produce artificial breathing. It is generally supposed, that a congestion of blood in the lungs may cause asphyxia, and such a theory leads to dangerous practice; for if the difficulty arose from pulmonary congestion, the most reasonable way to relieve it would be to allow a portion of blood to escape from the cord; but if this be done, the feeble spark of life is soon extinguished. By turning to a foregoing part of this treatise, it will be found, from demonstrative anatomy, that it is impossible the lungs should be congested, before they have been expanded with air; for it was shown that the ductus arteriosus diverted the current of blood, in a great measure, from the pulmonic artery, emptying it immediately into the aorta; so that the lungs, in a state of collapse, receive very little more blood than is necessary to feed them.

In some cases, a child is born and for an hour or two appears to be doing well; when suddenly, alarming symptoms supervene: its breathing becomes interrupted, the face livid, the nose contracted and cold, with purple lips and discoloured extremities. This disease evidently depends upon defective pulmonary circulation, which hinders the blood from being properly modified in the lungs, causing it to be unfit for purposes of life.

There are various degrees of this complaint, depending entirely on the degree of malformation. Some physicians

suppose it to be caused by the foramen ovale remaining open; and to prove it, exhibit the heart, when the foramen is unclosed; but, if they would examine a little farther, they must observe that this is the consequence, not the cause; which can only be found in the pulmonary system, above the ductus arteriosus: for if the blood is not carried through the arteries of the lungs, it cannot be returned by its veins: but it was showed before, that this very venous blood, flowing into the left auricle, is the power provided by nature for closing the valve of the foramen ovale; if therefore this power cannot act, the foramen remains open as a natural consequence.

In all cases of this nature, the foramen is not only open, but the ductus arteriosus is found to be so too. This in itself would be nearly conclusive of our position; for if the blood could pass through the lungs, the duct would close, as in all healthy children, being a less convenient channel. We find therefore, that the same cause acts upon the foramen ovale and the ductus arteriosus.

The disease appears in different degrees of force, which depends on the degree of malformation. The pulmonary artery may admit barely enough blood to support life, and then the patient lives miserably; at other times, it is more closed, and a few paroxysms serve to kill. Our object is to keep the child alive as long as possible, in hope that the pressure of blood on the artery may cause it to enlarge; and this there is reason to suppose sometimes takes place, on the same principle that a bronchial artery expands when its trunk has been tied.

Different methods of treatment have been proposed, both depletory and antispasmodic. Dr. Hosack of New-York, whose opinion deserves great attention, prefers one altogether stimulating, and reports two cases cured. He, however, falls into the belief of Dr. Underwood, ascribing the disease to the open foramen ovale; and we do not exactly see how his two opinions can be made to agree; for if the disease depends upon this foramen being open, stimulants, by increasing the circulation, must undoubtedly prevent its closing; whereas, in the other view of the subject, the increase of circulation by pressure would tend to dilate the pulmonary vessels, thereby giving the only chance of cure.

The practice of this able gentleman has been more successful than any before used, and we trust his anticipations may be fully realized.

Stimulants are recommended in the form of a bath, which is to be made as follows: "Four ounces of powdered Peruvian

bark to be boiled for a few minutes in about two gallons of water; to this, when fit for use, add a pint of Jamaica spirits. It may be made more stimulating by adding from time to time, a small quantity of the spirits of sal ammoniac." This bath was used and repeated by Dr. Hosack, until his patients were relieved.

Jaundice, in very young children, is often occasioned by obstructions in the porii biliarii, as from polypi, or the preternatural thickening of their coats, contracting the caliber of the duct, thereby preventing, in whole or in part, the escape of the bile into the intestine. The obstruction most frequently is found either in the hepatic or cystic duct, or in the ductus communis choledochus, though it may sometimes be discovered within the porta of the liver.

In such cases, the meconium and after passages show deficiency of bile, being light and chalk coloured, in proportion to the degree of obstruction; the eyes and skin soon exhibit the suffused saffron hue. The child refuses to suck, becomes languid, flatulent, costive, or colicky symptoms with convulsions supervene. A different kind of jaundice, may be induced at rather a later period, depending upon general hepatic derangement, and some temporary impediment to the flow of bile; but these cases are known by the readiness with which they yield to appropriate remedies.

The best means of cure consist in the use of emetic medicines, followed by the cautious exhibition of mercurials, until the bowels are properly acted upon, and the passages become natural. Should there be heat and intumescence in the region of the liver, leeches may be applied, and the parts gently rubbed with the soap liniment. The tepid bath, rendered slightly salt, will be found, in many instances, an useful auxiliary.

Congenital hernia is another instance of malformation, which oftentimes proves a fruitful source of irritation and disease, and should always be carefully attended to. If the umbilical ring be larger than ordinary, the bowel pressing upon the omentum, causes a protrusion through the aperture, which prevents it from closing. After a time, quite a sac is formed on the outside of the opening, and this, according to its size, is filled with omentum, solely, or with omentum and intestine.

Children thus affected generally suffer much, for frequently after they have been nursed, colicky symptoms appear, attended with flatulence, and much distress. Efforts made in crying, serve to increase the size of the tumour, and when this is ex-

amined, it is found hard and heated. Taxis will, for the most part, reduce the hernia and afford relief; but returns are so frequent, that there is no opportunity for the ring to contract, unless great attention be paid.

The indications are, to return the contained parts, and keep them in their proper places. Avoidance of all causes of flatulence, repeated applications of cold to the parts, and using a light bandage to support the abdomen, are the proper means. The bandage should not be tight, for pressure upon the abdomen causes an enlargement of the tumour, and tends to derange digestion. If the simple bandage is not sufficient to repress the protrusion, a bit of cork, shaped so as to present a rounded surface, to fit the opening in the umbilical ring, may be attached to the band or girdle, taking care that the hernia has been entirely reduced, for no pressure ought to be made, either on the omentum, or intestine This management often produces a radical cure by exciting slight inflammation on the edges of the ring, which ends in adhesion.

Surgeons have proposed to operate on the tumour either by the single or double ligature, with sutures or the knife. Either of these methods may produce more irritation than the child can bear, and should not be resorted to, except in cases of danger from strangulation; in which cases, the knife is decidedly superior to any other instrument, as it gives entire power to relieve the pressing symptoms, and is not attended with so much irritation.

Another species of congenital hernia is less common; this is scrotal, or where the intestine passes through the unclosed opening of the tunica vaginalis. Its peculiarities are perfectly explained by anatomy, and we shall pass them over. The treatment consists in the free, but judicious use of cold applications, taxis, and if possible, the wearing of a truss. Should strangulation come on, the operation is the same as for inguinal hernia, except that we meet with the tunica viginalis, instead of the common hernial sac.

Hydrocele may be congenital, and arise from the same malformation, or opening into the vaginal sac. It is a much more common affection than congenital scrotal hernia, but is frequently mistaken for it. Hydrocele may be distinguished in several ways: the water collects in the lower, or most pendulous portion of the scrotum; as it increases in quantity the tumour rises over the testicle, but is not effected by those causes which enlarge a hernia, as coughing, &c. Cases which do not depend upon an opening into the vaginal tunic, are not reducible, or if the water be pressed to the internal abdominal

ring, it returns so soon as that pressure is removed. Different manipulations make us understand the contents of a scrotal tumour; but the surest diagnostic is the transparency observable, when a candle is presented to the part. Cold applications and the use of a suspensory bag will generally cure this disease, if persisted in: an operation is rarely necessary.

Excoriations.—Children frequently suffer from excoriations, which for the most part is owing to improper dressing, or a want of strict cleanliness. From their excitability, these abrasions take on unhealthy action and degenerate into sores, producing fever. If they are managed in time, such symptoms are easily removed, fever and excitement are lowered by acting slightly on the bowels; by keeping the parts clean with old Castile soap, and afterwards preserving them dry by means of the puff with carmine and pearl powder.

Such affections should not be neglected, for causes of irritation are frequent in children, and we have seen very troublesome and even dangerous diseases established, particularly about the period of dentition, or the coming on of aphtha. In such cases, eruptions come out plentifully over the body, particularly about the head and behind the ears, and over the breast and throat. As a feverish, excited state of the system tends to produce these eruptions, so in turn is it increased and kept up by them, until indolent running sores, or ulcers are formed; the alimentary canal becomes associated in diseased action, and if the child be not relieved, wasting diarrhœa, or even convulsions supervene.

These cases, depending upon injuries and maintained by irritability, are to be treated with great mildness, but with perseverance. Emetics and the warm bath, in the first stages, are particularly useful, by lessening morbid association and gastric oppression. The bowels are next to be moved to a gentle and continued operation: doses of sulphur, alone, or with magnesia, or the potassæ supertartras, given at proper intervals, so that the action of one portion may support the preceding, are very good in allaying irritation. Should the hepatic system become involved, a few grains of the hydrargyri submurias may be premised, and repeated from time to time, according to the effect produced.

In the meanwhile external applications are not to be neglected. The surface is to be kept perfectly clean, and after washing, the eruption may be soothed with a little milk and water, or lime water. If ulcers have formed, they are to be dressed with the ointment of sulphur; such as seem indolent may be treated with the ceratum plumbi superacetatis spread

upon soft lint. Should these measures not be effectual, the unguentum hydrargyri may be resorted to, but during its employment, the bowels are to be kept still more open. It will be proper to examine the gums with care, and liberate any tooth which causes inflammation. Strict attention should be paid to the child's diet, and the milk of the mother is certainly best; but should it become weak and require something stronger, sago and arrow-root somewhat seasoned, or beef tea may be used. Pure air is of great consequence, and exercise should by no means be neglected. The sores behind the ears are not to be dried up, but suffered to heal gradually during the time of convalescence. They may be restrained by the use of the milk or lime water, after having been cleansed with Castile soap; for these sores serve as a protection to the system. If at any time they should spread too much, or look angry and highly inflamed, let them be touched with a little calomel and cream till reduced and brought to a proper state. Should the ulcers of the ear heal too rapidly, they are to be excited by camphorated, or other stimulating ointments, or even by blistering. We have seen very alarming symptoms removed, simply by having this drain re-established. It may be proper to mention, in passing from this subject, that calomel with cerate or cream is a powerful repellent, and has succeeded in venereal ulcers, where the ordinary mercurial ointment has failed.

Eruptions.—There are many eruptions of a different kind, affecting children, which appear to depend upon irritation, and are more or less severe, in proportion to their excitability, and to the degree of irritability present. Of this nature are the papulæ, which at first appear on the surface, in the form of irregular efflorescence, varying in degree of force. Some are so mild as to subside without farther consequences; others, from being excited, cause little prominences on the skin, which become filled with lymph, and these may run into each other.

Dr. Willan divides eruptions of this nature into three genera, according to appearances: namely, strophulus, lichen, and prurigo. The first species of strophulus eruption which we shall notice, is the intertinctus of Willan. It is usually a mild form of disease, seldom producing pustules, and is met with, for the most part, on the face, breast, and superior extremities; though it is also found occasionally on other parts of the body. The papulæ rise very slightly above the level of the cuticle, and may be felt by passing the finger over them. They are generally distinct, but sometimes run into each other,

forming blotches of a vivid red colour. This disease is fancifully termed by the French, the efflorescence benign.

The next species is the albidus. Although Dr. Willan separates these kinds of strophulus eruptions, the division would seem useless; for as far as our observation extends, the only point of difference between them is that in the albidus, the summits of the papulæ are covered with an ash coloured cuticle, which presents a speckled surface; their bases are the same, and every difference of symptom is traceable to various degrees of irritation. If these diseases present themselves in a simple form, all that is necessary in the treatment, is to keep the child perfectly clean, and moderate excitement by acting gently on the bowels. When much irritability is present, the eruption may either come out full and florid, or it may alternate with affections of the brain or alimentary canal, as is seen in convulsions, and diarrhœa: then the warm bath, with mild emetics, become useful. Should the system be rendered languid, it may be supported by tonics and cordials.

Strophulus confertus may be ranked as a disease of dentition, and depends upon the inflammation of the mouth, and general irritation of the stomach and bowels. It is marked by numerous papulæ, scattered about the head and extremities, small in size, but surrounded by large circles of bright inflammation. Some of them contain lymph in small quantities, but seldom break. The symptoms are in proportion to the pains of dentition. Occasionally the legs are very much affected, and the papulæ stand so thick as to resemble long streaks of inflammation. In such cases pustules are formed, and ichorus matter being thrown out, ill looking scabs, and excoriations are met with. This eruption is not easily repelled, and by consequence, the child is rarely convulsed. The treatment consists in attention to the mouth, strict cleanliness, and the free use of testaceous powders.

The strophulus volaticus, or ignis volaticus infantum, appears in circular blotches, on any part of the body. When examined, each patch seems formed of about a dozen papulæ. These appear and disappear without any regular order, being, as the name imports, altogether transitory. On going off, however, these spots lose their bright colour, becoming brown, or dark, and leave the cuticle in a state of desquamation.

The volaticus requires no local treatment; a general attention to laxatives should be followed by a corroborative course, and preparations of Peruvian bark are particularly beneficial.

Strophulus candidus, the fifth and last species of Willan, differs entirely from the preceding. It is generally consequent

on acute inflammatory diseases, and consists of papulæ, which are smooth and shining, occupying a considerable space, and each patch, distinct from others, having no inflamed circle for its base. They occupy the loins, arms, and parts about the shoulder. Depending on other diseases, it must be treated on general principles.

Lichen.—The next genus of the order papulæ is the lichen; and this may be summed up under five heads, or species. Lichen simplex cannot be called an herpetic eruption, unless under circumstances of much irritation; for it does not spread, but is merely a simple eruption, appearing on the body in any part. In it the papulæ are red, having no inflammatory base, and soon assuming a tuberculated form, from whence the name; as a far-strained resemblance has been discovered between these tubercles, and the rough bark of the lichen. Dr. Willan confines this disease to adults; but it is often to be met with in children and young persons under the age of puberty. It commences with languor and slight irregular feverish symptoms, resembling what nurses call inward fevers, or febriculæ. After two or three days, the eruption appears in patches of different sizes, some being quite large, and others inconsiderable. The duration of this eruption is uncertain, and frequently there are successive crops. Convalescence often presents the skin covered with scurf, which may be so discoloured as to resemble tetter.

Lichen pilaris is only the foregoing disease, when its seat is the scalp. Desquamation and falling out of the hair may be expected, unless it be checked seasonably. The indications are, to remove the diathesis, by cooling diet and proper laxatives, whilst the parts are kept perfectly clean. In pilaris, the hair should be cropped, and the head frequently washed with Castile soap, using the brush freely, with some stimulating embrocation, as salt and water, or brandy and water. When the eruption is very troublesome, the head should be shaved at once, and rubbed well with ointment of sulphur, whilst the flowers of the same medicine are used freely internally. This course will oftentimes prevent baldness.

Lichen agrias is distinguished from the simplex by its fever, of typhoid tendency. The eruption is of a dull red or livid complexion, studded here and there with yellow pustules, which breaking, pour out dark blood and serum, and form sores hard to be healed. The treatment consists in first cleansing the system, and then supporting it well with tonics and mineral acids.

Lichen lividus is only found in seats of squalid wretched-

ness and poverty. It is often mistaken for an occult venereal symptom; but mercury is very injurious, and all that is necessary to its cure, may be found in cleanliness, free air, and generous diet.

The lichen tropicus is very well known to every body as the prickly heat; and unless repelled, or uncommonly violent, requires no particular management: in such cases, it is to be treated by rules already given.

Prurigo.—The third division of papulous eruptions is prurigo, from prurio. These itching eruptions are very distressing, but differ from the contagious psora, or itch. In them, great irritability is present; so that when the pustular eruption is rubbed or scratched, as it always is, the parts thus injured, become raw and highly inflamed, pouring out an ichorous fluid: this species is perhaps more herpetic, than either of the foregoing, requiring a much larger share of patience to endure.

Prurigo mitis presents a shining surface, without much inflammation, until the parts have suffered by scratching. The petechiæ are small, having their summits filled with an acrid fluid; giving most inconvenience at night, when the patient is warm in bed.

An aggravation of this species is the prurigo formicans, from the sensation resembling that occasioned by the crawling and stinging of ants. This form is sometimes so obstinate as to last for many months; but is always curable by perseverance. It sometimes attacks the nose; sometimes the prepuce; and in females, the urethra: when thus local, it resembles the tetter in obstinacy. The complaint is frequent in old age, in the form we have spoken of under the term mitis: this is called by Willan prurigo sensilis; but is without our bounds. The treatment is conducted on general principles: purgatives, the tepid bath, and deobstruent medicines. Sulphur is particularly good, both internally and topically; and when the system has been laid under its influence, infusions of sassafras, juniper, sarsaparilla, and guaiacum, are to be taken freely.

Cutaneous eruptions have been rendered unnecessarily complicated by the dogmas of the schools. A passion for nosological arrangement has given birth to an endless variety of names; and these names are supported by every argument and symptom which ingenuity can invent. It is well known that the pride of opinion will not allow men to recede from favourite theories. Warped and swayed by prejudice, they sensibly enter into the feelings of the inveterate Saturnia—

——— Quod si mea numina non sunt
Magna satis, dubium haud equidem implorare quod usquam est:
Flectere si nequeo Superos, Acheronta movebo.

The eruptions heretofore spoken of, are such as are not necessarily attended with fever, though often feverish symptoms, or febriculæ are present. We next arrive at a class in which decided fever bears a material part.

Exanthemata.—Strict derivation would not lead one to expect fever from this term; but only a flowery efflorescence, ex anthos. For the sake of precision, however, we restrict it to such eruptions as are attended with pyrexiæ. They depend either upon specific or general causes. Those which are specific, as measles and chicken-pox, seldom or never recur, whilst those which depend on general morbid impressions, as erysipelas and scarlatina, do recur, and oftentimes appear to increase the susceptibility of the system for future attacks. A systematic account of all the exanthematous affections would far exceed the limits of an essay; we shall, therefore, only select a few of them; and first, those depending upon general causes.

Erysipelas is an eruptive febrile affection, placed by the late professor Cullen in the class pyrexiæ, and order exanthemata. The disease may appear on any part of the body; but the face, neck, and arms are more liable to its attacks; and these, in the order in which they are mentioned. The first symptoms are those of pyrexiæ; languor, listlessness, gastric oppression, and afterwards chilness. Reaction is attended with considerable determination towards the head, amounting to confusion of ideas, or even delirium, or coma. The mouth is dry, and the surface of the body at a high temperature. At this period the pulses are full and frequent, with much throbbing of the carotid arteries. Such a state may continue for two or three days, when it is mitigated by the appearance of the eruption.

This comes on gradually, and extends more or less over the body, according to the violence of the attack. When it breaks out on the face, the redness is at first inconsiderable: very soon, however, the cuticle becomes more thickly set with petechial spots, which are thrown into different shapes, giving a whelked aspect. If these spots are pressed upon by the finger, they disappear; but immediately return with a more irritable blush. The eyes are often painfully inflamed, and in children of irritable fibre, may suppurate. When the throat is much involved, fatal anginous affections supervene.

This species of inflammation does not often suppurate, unless it be conjoined with the phlegmonous. It attacks the eyes and soft parts of children, and is also found in the nipples and breasts of pregnant and lying-in women. Without phlegmonous inflammation, it is much more apt to take on gangrenous

action and slough; in which cases, the wounds, though not deep, are spreading, and hard of cure. In cases of violence, the extremities become tumid and even œdematous, and the more florid patches are sprinkled with pustules, which contain viscid lymph.

Erysipelas attacks those children who are fat and of sanguine temperaments; and those who are on the other extreme, wasted and irritable. The disease depends upon depraved habits of body, suppressed perspiration, improper food and irritability of the primæ viæ.

Treatment. The indications are, to throw out the eruption, relieve irritation and support the child.

In the first stages, if local determination is strong, and those cephalic symptoms, which have already been mentioned, as coma, or delirium, be present; the lancet should be used, but always with great caution, remembering that this fever, at first inflammatory, easily passes to one of a typhoid tendency. The first or second bleedings may be made to command the symptoms; for after these, the remedy may not be admissible. Sinapisms to the soles of the feet are useful in these determinations, and should not be overlooked.

When the heat of the surface is considerable before the eruption appears, the child is to be freely sponged with cold water; which method we prefer to the bath, and the good effect of this sponging is evident throughout the subsequent treatment.

The stomach is next to be thoroughly cleansed by emetics, and relieved from morbid action; which has the farther advantage of throwing out the eruption; the sooner this is effected, the lighter will the symptoms be, and the shorter the attack.

The bowels are to be relieved at first by an efficient cathartic, repeating if necessary; after which, they may be regulated by mild saline medicines and testaceous powders. When these measures have been pursued, a course of diaphoretics will complete the cure. Should symptoms of putrescence or typhus supervene, Peruvian bark and other tonics, with diffusible stimulants should be resorted to. A good prescription is formed by ordering a few grains of the rust of iron, in sound old Port wine.

External applications do very partial good in this constitutional disease; violent itching may be mitigated by touching the part with pearl powder, which keeps it dry. Sometimes a little salt and water, or the watery solution of opium, as a wash, gives temporary relief; but generally, the cooling powder answers best.

When malignant sores form, they should be treated by poultices of bread and milk, medicated with the saturnine lotion, or cinchona bark. Poppy heads boiled in milk make an excellent fomentation; and in all such cases, the tonic plan is to be steadily pursued.

There is another form of erysipelas, which luckily does not often occur, and we are inclined to believe it confined to the lowest walks of life: it is the infantile erysipelas of Dr. Underwood, described by him as met with in lying-in hospitals. This species of erysipelas attacks children of a few days old: Dr. Underwood saw it in several instances at birth.

The eruption is at first hard, soon becoming pustular and gangrenous. It is found principally on the trunk and about the nates; and parts affected speedily run through the sloughing process. The viscera are much diseased, and frequently sphacelate. This eruption is best treated by compresses rung out in camphorated spirit, or the liquor plumbi superacetatis, while cinchona, mixed with the aromatic confection, is used internally, and by enemata.

Scarlatina is a febrile disease, accompanied by an efflorescence of a bright red or scarlet colour. Its fever is at first synocha; but soon, under some circumstances, tends to typhus. It usually appears in the winter or spring, and when the temperature of the weather is variable. Children are much more liable to attacks than adults, and in them it frequently becomes a very formidable disease. Scarlatina is generally considered contagious; but we doubt whether it really ever is so, except in malignant cases, or in confined situations: that it does recur, though a disputed point, is as clear as any position in medicine.

The disease may be treated of under the two heads of scarlatina simplex or mitis, and scarlatina anginosa, which last frequently assumes the livery of cynanche maligna. Authors differ in opinion as to the propriety of considering scarlatina maligna and cynanche maligna as one. Dr. Cullen labours to prove them different; but his own arguments are sufficient to establish the converse of his proposition; for, amongst other things, he says he has seen them epidemic at one and the same time, which cannot happen in specific diseases.

Scarlatina simplex is a mild affection in itself; but it sometimes speedily becomes anginous and malignant, and should therefore always be attended to. It comes on with the ordinary symptoms of pyrexiæ; gastric distress, listlessness, and shivering; followed by the hot stage of fever, with determination to the head and drowsiness.

This remitting fever may last for the space of two days, and then the eruption appears; but without causing any sensible abatement in the symptoms, as is generally the case in cutaneous eruptions.

The specks of efflorescence are larger than in measles; not rising above the level of the cuticle, as in that disease, except on the superior extremities; coming out on different points so near together, as to appear confluent; presenting large scarlet spots of irregular shapes. These spots are apt to recede and change their positions; but in convalescence they become more brown, and leave the skin in a purpuraceous dry state.

It is difficult to draw the precise line between the two parts of our subject; for the simple form may take on slight anginous symptoms; the muscles becoming stiff; the throat red, with much drowsiness; and yet, the case never appear at all alarming. This stage is often attended with a short irritable cough, in which there is little or no expectoration. The eyes are partially inflamed, and their small glands slightly swollen; but there is not the coryza found in attacks of measles. The pulse is sometimes full; but oftener weak and very frequent.

Scarlatina anginosa is marked by an increase of all these symptoms; more gastric distress, a depressed quick pulse, with more or less tension, soon becoming small and tremulous, accompanied with much weakness and a sense of sinking. The throat is seized upon; inflammation spreading over the uvula, velum pendulum palati and tonsils, which degenerates at once into malignant sloughing ulcers; these serve to exasperate the previous symptoms.

The eruption is now much more diffused; thrown every where into broad stripes and patches, pouring out an acrid fluid. The glands of the throat are enlarged, and the breath extremely fetid, owing to the gangrenous spreading ulcers, and to gastric derangement. If the disease be not arrested, the inflammation assumes a darker hue; the throat is filled with dark brown sloughs; the nose and lips become excoriated, in consequence of the acrid discharge; difficulty is perceived in breathing, and the face is more livid; the papillæ of the tongue are very prominent, and the tongue itself, with the gums and teeth, are covered with a foul incrustation, bleeding easily; the hearing is often affected to deafness, and hemorrhages and diarrhœa add to the distress and danger. The prognosis is fatal in proportion to the prevalence of typhoid symptoms.

It has been said that the commencement of simple scarlatina

was neither dangerous nor alarming; the first symptoms are inflammatory, and if local determinations require the lancet, this depletion is admissible. Dr. Currie declares, in the "Medical Reports," that before the eruption, cold water is the best of all remedies, serving often to extinguish the disease. He recommends the patient to be placed in a tub, and that cold water should be thrown on him plentifully, which course is to be repeated eight, ten, or twelve times, on the first and second days, according to circumstances. We cannot speak quite so positively as this gentleman, for the cold bath may be carried too far. Dr. Gregory did so in the case of his own child, and killed him; but we have seen signal service done by the prompt and free use of the cold affusion on the first day, where there was no sense of chilness or shivering in the child, but only high running symptoms of pyrexiæ; chilly sensations must always forbid a repetition.

Children are more relieved by judicious affusion than would be imagined; from great irritability and heat they become comparatively cool, which disposes them to refreshing sleep; the good effect of this course may frequently be observed throughout the cure.

In those cases which do not affect the throat, little more is necessary than to cleanse the bowels, and put the patient on a light diet, with cooling acidulated drink; taking care however to watch all appearances. Should angina supervene, the stomach is to be at once emptied by an emetic; after which these medicines are to be so used, as to keep the organ in a state of nausea until there is reason to suppose its morbid action has been altered, and there is a tendency to the surface. This will, as it were, unlock the system and allow mild cathartics to act kindly, which is a consideration of much importance.

Many excellent physicians have been afraid to act on the bowels, lest diarrhœa should be brought on, as this is one of the natural terminations of scarlatina. Dr. Hamilton inveighs strongly against such timidity, and recommends the free exhibition of cathartics as indispensable. There is no doubt that fatal diarrhœa must be more likely to arise from the collection of fetid matter in the alimentary canal, than from a judicious use of purgatives. Dr. Armstrong advises, when the throat is tumid and hot, and the eyes inflamed, that blood should be unhesitatingly taken from the arm, temporal artery, or jugular vein; but this practice cannot be proper. After the first stages of the disease, we have never known general blood-letting to do any good: topical detraction by means of leeches, is far preferable; for it unloads the vessels most affected, which

general bleedings fail to do, while the strength of the child is not wasted. When due attention has been paid to the primæ viæ, it becomes proper to act efficiently upon the skin by means of diaphoretics; nitrous, antimonial, and saline medicines are good; and their effect should be promoted by acidulous cooling drinks.

In scarlatina anginosa, the strength should be supported by tonics and diffusible stimulants, and these are to be still more assiduously applied in the more malignant forms, or when it assumes the appearance of cynanche maligna. Sulphate of quinine with Port wine, Peruvian bark in substance or decoction, combined with oxygenated muriatic acid and wine; or colombo with an aromatic and the antiseptic mineral acid, form useful prescriptions. As diffusible stimulants, æther, camphor, and ammonia are as good as any. Carbonic acid gas has been highly recommended, and may be used by taking the supercarbonate of potash or soda in solution, and then swallowing lemon juice or tartaric acid, so as to cause the evolution of gas in the stomach.

Angina must be managed with detergent gargles and fomentations; the throat may be rubbed with st. terebinth. or capsicum, and lightly covered with flannel: the evaporating liniment is often valuable in reducing temperature. Cataplasms of mustard have been spoken of to the exclusion of blisters; in some cases both remedies do good; we think the blister not more irritating than the poultice, and it often answers a better purpose in arresting mortification. Inhalations, as of diluted nitric acid, with some of the stimulating balsams, frequently are of service. No judicious physician will injure the throat by mops or caustic; but great care should be taken to preserve it as clean as possible. Throughout the case, strict attention should be paid to diet and free ventilation.

Convalescence is often attended with œdematous swellings and stiffness of the legs; they should be frequently rubbed with some stimulating embrocation and moderately used, whilst a roller of soft flannel is worn around them. This care, while the bowels are kept free, will produce a cure.

We cannot, without overstepping our limits in the "Recorder," enter upon the consideration of those exanthemata, which we intended to have spoken of as more particularly specific, such as rubeola, varicella, and some others, which make so decided an impression upon the system, as to secure it against future attacks. It is proper, in concluding this subject, to notice a disease which often occasions alarm from its resemblance to scarlatina, but which is really so mild in its na-

ture, as seldom to do mischief; this is called roseola by Dr. Williams. It is often mistaken for measles, and may be one cause why we hear so much of second attacks of that complaint.

Roseola commences with the ordinary symptoms of pyrexiæ; but instead of delirium, or coma, the head aches distressingly. The fever is irregular; sometimes running high, with morning remissions; at other times, exacerbations take place successively during the day and night; but generally the child is more feverish at night. Such is the state of things in severe attacks; the milder forms are not attended with highly marked pyrexiæ.

Between the second or third day, and the seventh or eighth, the eruption makes its appearance; at first, coming out lightly about the face and neck; afterwards extending over the body. Its degree is generally in proportion to the previous symptoms. Deep-coloured patches of various figures, each composed of confluent petechial spots, break out in different situations; most numerous about the face and neck; which in a short time lose their first bright complexion, taking on a more damask or roseate hue. Occasionally small vesicles are found scattered here and there, and these either subside, or dry up and fall off in scales. In three or four days from its eruption, the rash assumes a dull red appearance and goes off in inconsiderable desquamation. When the eruption is at its height, the throat is hot; and internally, there are a number of small red papulæ, scarcely rising above the level of the epithelium; and these give the appearance of a blush of inflammation throughout the fauces. The symptoms of roseola are seldom severe, unless accompanied by those of dentition; then the excitability is such, that affections of the bowels, and not unfrequently convulsions, waste the child. The disease is easily cured by timely attention to the gums; mildly evacuating the stomach and bowels, and the frequent use of the warm bath.

Roseola may be distinguished from scarlatina, by comparing it with the account of that disease given above: from measles, it may be known by the irregularity of its approach, the greater diffusion and peculiar colour of its eruption, and by its uncertain continuance. It is not attended with coryza, or the pectoral symptoms of measles, and cannot be communicated, though the same cause may seize upon different children at the same time. Dr. Willan, in his book on cutaneous diseases, mentions it as infectious; but observation does not bear him out; and we had just as well suppose common catarrh infectious.

Excitability of the alimentary canal been mentioned as

a fruitful source of indisposition in children; and in many cases, it has been shown how readily this system becomes involved in the morbid associations affecting other parts of their economy. It now remains to us to mention a few troublesome affections, in which the stomach and bowels appear to be chiefly concerned, and which affect the general system indirectly, through the intervention of those nervous connexions which we have dwelt upon. This kind of irritation may be traced to one or more of the following causes: improper food and exposure, impure air, neglect of cleanliness and exercise. It may easily be perceived how the health of a child becomes deranged by these causes; and in what manner accumulating irritability manifests itself in disease.

Vomiting is a symptom frequently met with in the most healthy children; and when unattended with other symptoms and moderate in itself, may be considered rather as a safeguard, and fortunate propensity, than any mark of disorder. We allude to such vomiting as occurs after feeding or nursing; for at such times the stomach is apt to be overloaded, and nature relieves herself in this manner. If the infant have been much fed by the spoon, the stomach may become too irritable both from the quantity and quality of its nourishment, and not retain enough for purposes of digestion; the child then wastes by straining and inanition. In such cases, it becomes necessary to assist it. The food is to be changed, using such only as is known to be sound and wholesome: of all kinds, mother's milk is certainly best. When from any cause it becomes expedient to use factitious diet, the imitation of its natural food, already spoken of, is the best substitute. Sometimes the stomach is settled by a little white wine whey. Should the symptoms continue, it is known at once that something crude and indigestible remains in the organ, which it is proper to remove, and for this purpose a gentle emetic of ipecacuanha is to be employed; after which, the bowels may be relieved by oil. As an auxiliary, the epigastric region may be rubbed with an anodyne liniment, and the child composed by means of a few drops of the paragoric elixir.

Colic.—When the chylopoietic viscera are much disordered, the food being returned sour and undigested, instead of going to wholesome nutrition: the child is always liable to attacks of colic. This is an affection which should not be neglected; for, though it is oftentimes easily removed, it frequently induces severe symptoms and even convulsions, bringing the child into great danger. Symptoms of colic in children are flatulence and acid eructations, great restlessness, with fre-

quent fits of crying, increase of heat, a tumid abdomen, and an incessant effort to draw the knees up to the body. It is now and then attended with diarrhœa, but much more frequently with costiveness and vomiting.

In such cases the stomach and bowels are to be gently, but freely, evacuated. Emetics seem particularly calculated to relieve many distressing symptoms in infantile diseases, and are, indeed, pointed out by nature for a proper remedy, as was shown under a preceding head. In cases of colic, we are not disappointed in their effects; they expel irritating matter, without carrying it through the tract of intestines, and leave the stomach free to the operation of other medicines. When a gentle emetic is required, there can be nothing better than ipecacuanha: tartarized antimony is preferred by many, and certainly possesses its advantages, being more easily administered, and when it does act kindly, more powerful. But we object to its free use with infants, for it often does not act kindly; and in very many cases is attended with the worst consequences. If, therefore, the desired effect is not produced speedily, and farther medicine is required, some other article should be substituted; for the history of tartar emetic shows us that it has destroyed more children than any other drug in the materia medica. If laxatives are slow in operating, they may be assisted by the enema, or molasses stick suppository. When the symptoms run high, these measures should be promoted by fomentations to the abdomen, and friction, with some stimulating embrocation, together with the early employment of the warm bath. After these means, we may compose the patient with some anodyne, as paregoric elixir, which in most cases is to be preferred to laudanum, being more mild and easily regulated than that preparation. Advice should never be vague, particularly where any form of opium is to be employed with children. After the symptoms of colic have been relieved, attention should be paid to strengthen the constitution, in order to prevent its recurrence; and this is best effected by attending to those rules, already laid down under the hygieine.

Atrophy.—A species of atrophia, sometimes occurs in children, and proves an occult and exceedingly troublesome disease. It may be considered under the class cachexiæ, and order marcores. The approaches of this affection are frequently so insidious, as not to be immediately perceived; and the system may be much deranged before assistance is required. The child droops and becomes languid, loses appetite, has a slight hacking cough with febriculæ, learns to be fretful, and has the digestive organs much impaired; sometimes costiveness pre-

vails, at other times the bowels are too loose, and the discharges unnatural and extremely fœtid. As its name imports, these symptoms are attended with a general wasting away.

Dissection shows the mesenteric glands to be inflamed and granulated; not unfrequently occupied by tubercles, in cases of long standing. In these last instances, disease is found to have been far spread through the lactea vasa, or thoracic system.

This atrophy may arise from a variety of causes: from scrofulous or syphilitic hereditary taint, from confined air and unwholesome food, or from having the child weaned too soon: this last is a fruitful source. There is another, and a melancholy cause, depending upon mental anxiety and wretchedness of the mother. This does not fail to produce bodily irritability and disorder, whereby her supply of milk becomes injuriously modified, and thus she yields her child food and disease at the same time.

In treating this disease, it is by all means necessary to trace its real source. If it depends on scrofulous or syphilitic taint, it is to be managed on general principles; if on impure air or diet, these should be attended to; and if the child have been weaned too soon, or its mother's milk proves injurious, a cheerful and healthy wet nurse ought speedily to be provided.

In this chronical disease, hasty treatment would be pernicious; but mildness and perseverance often effect a cure. The stomach and bowels are to be relieved of their contents, and no crude collections allowed to take place in them. Where the discharges are dark and offensive, a few grains of the hydrargyri submurias may be exhibited, while the abdomen is frequently well rubbed with a stimulating unctuous liniment.

The strength of the child should be supported; and as tonics can scarcely be given to infants internally with advantage, except in their food, we may have this slightly medicated, either with the sulphate of quinine, or the muriated tincture of iron. The tepid bath is of great service, and should be used early, medicated with the bark of cinchona, and when indicated, with spirit. So soon as symptoms will allow, cold bathing may be substituted. As the skins of children are very soft, they are unquestionably often benefitted by wearing the bark padded girdle. With free air and exercise, these means are often attended by the happiest results.

Aphthæ is a disease placed by some nosologists under the head exanthemata; by others, under that of cachexiæ. It does not strictly belong to either class, if we except the chronical

aphthous affection of adults, which becomes a wasting malady, and then may be termed cachexic. Aphthæ of children may be found under two forms; the simple and malignant. Simple aphthæ is generally a very mild disease; its fever, for the most part, is slight, and often not perceptible. The tongue and throat exhibit small specks of a light ash-colour, with an inflamed base, and these spots are in proportion to the irritability. They vary in number, sometimes only two or three are observable; again, the mouth and fauces are thickly studded. After a few days the ashy tops fall off, and the inflammation heals; or there are successive crops. The alimentary canal becomes affected or not, according to the degree and duration of the attack. Treatment is simple, consisting in detergent gargles and light diet. Attention should be paid to the gums, and any tooth liberated which causes excitement. If the stomach becomes oppressed with acid, it should be relieved by an emetic; and any bowel symptom may be treated on general principles.

Malignant aphthæ presents a very different state of things, for it is one of the most alarming affections of childhood. It appears to prevail as an epidemic. Although it is sometimes attributed to contagion, we have never seen just cause for such an idea, but think it to depend upon a peculiar constitution of the atmosphere. The disease manifests malignancy from its commencement. The child becomes languid and dull, with a quick irritable pulse, and as it were, a general collapse of system. The skin presents a pale and shrivelled aspect, while the countenance is distressed. The eye wants expression, and is frequently much suffused. The fever is of a low type, and the surface of the body assumes a dull livid colour, oftentimes, though not always, breaking out with vibices, or even darker purple spots.

It is a singular feature in this disease, that although the throat is particularly affected, the patient seldom complains of it: we have known children of six or eight years, who appeared perfectly unconscious of angina. When the throat is examined, however, it is found to be much involved in morbid action. The lining membrane offers a thickened, shining appearance, studded with the ash-coloured spots, already described; only in the present case, these vesications are more elevated and disposed to be confluent. On its outside, the throat has a natural aspect, or is only slightly swollen. After a short time, the ashy vesications spread into extensive sloughs; and now symptoms of laryngytis supervene, such as cough, with a difficulty of breathing, which increases to

suffocation. The discharge from the nose, and fœtor of the breath, resemble that in cynanche maligna. When the larynx becomes affected, the pulses sink; and if the symptoms are not arrested, the child dies as in croup, before his medicines have time to operate. It is, therefore, always particularly desirable to treat it in its earliest stages; and it should be recollected, that in very many cases death takes place on the second day.

In managing this case, the stomach is to be promptly evacuated by an emetic, and the bowels unloaded by enemata, whilst the tepid bath is freely used. His strength is to be kept up by cordials, and gentle means employed to cleanse the mouth and throat. Blisters and cataplasms have been applied externally, but they seem to increase irritation and hasten the event. A good effect is produced by drawing determination to the extremities by means of mustard plasters, and the throat may be gently rubbed with the oleum terebinthinæ. The skin should be kept in a perspirable state, and every means employed to ward off or relieve laryngeal symptoms. When these do not yield, and suffocation advances, recourse may be had to tracheotomy, which allows us more time to pursue salutary measures.

Convulsions.—Children of delicate, irritable habits, are always obnoxious to attacks of convulsions. These symptoms may be produced by a variety of causes, and have been repeatedly shown, in the course of this publication, as depending on other diseases, whereby the powers of the constitution have been impaired, and its excitability much acted upon. It is also induced as a primary affection, by improper food, or any thing causing irritation in the alimentary canal; by inattention to exercise, and those rules laid down for the preservation of health. It frequently is found in confined situations, as in lying-in hospitals, and as a precursor to constitutional affections, as in some of the exanthemata. Sometimes it is brought on by sudden agitation or fright; and in such cases the sensorium commune is the first seat of disease. The brain then may be the original seat; or it may be acted upon by sympathy with other parts affected. Convulsions may be tonic or atonic; and are classed as clonic and spasmodic.

When a child is disposed to convulsions, the stomach and bowels manifest derangement; the features are from time to time distorted; he is in pain, clenches his hands, and throws his feet about. In a little while the nose becomes pinched, and a bluish appearance is perceived around the eyes and about the mouth. When these fits subside he seems lethargic,

and is only roused by their recurrence. The intervals are shorter, and the symptoms more violent as the case advances. A whimsical opinion prevailed among the disciples of the celebrated Stahl, on the subject of convulsions, holding them to be efforts of the vis conservatrix for salutary purposes, by which the system might be relieved from morbid impressions.

In those cases which are more strongly marked by spasm, the general convulsion is attended by involuntary jerks and twitches of some particular muscle, or sets of muscles; this causes the legs or arms to become rigid or contracted, or the countenance is distorted, or the neck and trunk are bent: sometimes an organ, as the stomach or kidney, suffers particularly. It is not uncommon to find the sphincters much affected, and this is conspicuously the case with the sphincter ani, which closes spasmodically when pressed upon by passing fæces; so that irritability is increased, and repeated convulsions take place during catharsis.

In managing convulsion, we should by all means endeavour to ascertain precisely the exciting cause, and remove it. If it arises from irritation of the gums in dentition, these are to be freely scarified and suffered to bleed. Where the tooth can be felt, the edge of the lancet may be so directed as to divide the periosteum, or membrane covering it; for this membrane, in consequence of increasing size and pressure of the tooth becomes inflamed, and is the chief seat of pain. The gum is much less sensible, and after the periosteum has been cut may heal again, if the tooth be deep enough, and afterwards is removed by absorption, as this advances, without causing inconvenience. When the gum, however, remains inflamed and swollen, it should be scarified again, as a means of topical depletion.

If there is reason to suppose the disease a precursor of eruptive fever, and the stomach appears oppressed, the eruption is to be hastened, and febrile symptoms allayed by free emesis, the warm bath, and those measures recommended whilst on the subject of eruptive affections. If improper food have been the cause, this should be attended to, and the digestive apparatus relieved; and so with any other exciting cause which may be within reach.

To remove convulsive symptoms, after the mouth has been attended to, the bowels should be emptied by means of enemata, and the child placed in the warm bath up to the chin. When the fit goes off, small doses of mercury, with gentle laxatives, are to be employed for thoroughly cleansing the alimentary canal. We are not fond of opium in these cases,

unless it becomes necessary to control some particular symptom; but antispasmodics, as ammonia, æther, and some of the fœtids, are undoubtedly beneficial. The baron Stork speaks highly of camphor, both by the mouth and as an enema. Washing the face with the volatile tincture of ammonia, and applying cataplasms to the extremities, often does much good.

In the cases of spasm mentioned above, it is often necessary to draw blood from the arm or jugular vein, and use the head with cold affusions; afterwards, if necessary, with blisters. Sometimes we find convulsions to arise after the drying up of sores behind the ears, and these cases are relieved, simply by re-establishing the drain by blisters. The general health and constitution should be strengthened to prevent recurrence, ut supra.

From indigestion and irritability of fibre, children sometimes have their sleep interrupted, starting frequently, and are easily roused; the eye is partly open and turned upward, while slight muscular motions give the appearance of smiles playing about the face. This is scarcely a disease; but it shows that all is not exactly right in the first passages, and should be attended to. It is easily prevented, by attending to the food and throwing into it a few carui, or coriander seed. Mothers sometimes hang over their infants with delight to see them dream and smile so sweetly, and are surprised to find that any thing like disease should lurk under so pleasing a semblance.

Diarrhœa frequently appears as a sequent in other infantile diseases, but it is also often a primary affection, depending principally on improper ingesta. It commences with slight gastric distress and lassitude, succeeded by more or less excitement. Discharges from the bowels are frequent, and consist of feculent matter, mixed with mucus. When diarrhœa is neglected it becomes chronical, and the child wastes, falling into a state of cachexiæ. It is soon removed by timely attention to diet, after emptying the stomach and bowels, first by emetics, and afterwards by oils and testaceous powders. Where symptoms are more obstinate, the warm bath should be employed, and flannel worn next the skin.

Dysentery is a much more serious complaint, involving the whole chylopoietic apparatus. It is usually induced by a general want of management; confined, unwholesome air, and repelled perspiration. Its severity depends upon the circumstances of the case, and its effect upon the system is proportioned to the extent and importance of the surface acted upon.

Dysentery makes its appearance with the ordinary symptoms of pyrexiæ: anxiety, chilness and shivering, alternating with flushings, until the hot stage of fever is established. The stomach is distressed, often to vomiting, and the bowels loaded with dark and offensive matter, which is expelled by frequent, irregular, and violent action, accompanied with both tormina and tenesmus. The villous coat of the intestine is inflamed, partially or generally, and the excretory ducts opening upon it, take on the same false action, extending it to the neighbouring glands, and pour out an exceedingly acrid and offensive matter. The discharges now consist of small lumps of indurated fæces or scybala, with glareous mucus, mingled with bile, and more or less streaked with blood. Undigested food and specks of curdled milk are frequently passed, and these symptoms increase to lientery. This form of disease continuing, soon exhausts both the strength and spirits of the child, wearing him to a skeleton. The countenance is haggard and cadaverous, with a peculiar expression of wretchedness, while the eyes are often bright and wander anxiously. We have seen the eye of one of these little sufferers express more than the tongue can do for many adults.

Dissections show the internal coat of the intestine much diseased; this is particularly the state of the large intestines, where spots of sphacelus are found in every direction; the glands appear enlarged and granulated, and often the peritoneum is affected. It is not uncommon to find intussusceptio occurring in various parts of the passage.

In the first stages of dysentery, the fever is synochus, but soon manifests a typhoid tendency, and may degenerate into the lowest degrees of that type: the pulse, from full and frequent, becomes small, very quick, and is sometimes tense and corded, sometimes weak and tremulous. Blood drawn in the first period displays inflammation; that which flows later is dark, dissolved and grumous. The tongue is at first furred and loaded; afterwards it becomes, with the gums and teeth, covered with sordes; blood leaks from the mouth, and hemorrhages of a muddy-looking, uncoagulating character, take place from the nose and bowels. In confined situations, such as lying-in hospitals, or crowded factories, where the atmosphere becomes tainted for want of cleanliness and ventilation, the disease speedily degenerates into typhus, and rages as if it were epidemic or contagious; and there is reason to believe that this highly morbid matter from the body of one patient may infect other persons from contact: but unless under such circumstances, we cannot for a moment suppose dysentery contagious, although it is very well to mention, that some of

the most learned of the faculty have declared it so, for this may make families more attentive to cleanliness and fresh air.

The first symptoms of dysentery should never be tampered with; then the disease is manageable, and may be treated with tolerable certainty; afterwards, the records of medicine unfortunately show a different result. The stomach should be relieved of its contents, in the first place, by emetics, and then the gums are to be carefully examined, and any irritation arising from dentition removed. Considering the hepatic system to be involved, we next recommend small doses of the submurias hydrargyri, exhibited so as to allow one portion to continue gently the action of the preceding; and when this is effected, some laxative, as the oleum ricini, carries off the matter which has been emulged. After this course, the disease is laid more open, and light cathartics, such as the oleaginous and cretaceous preparations, are to be employed until the bowels are unloaded and relieved of flatulence and acidity. Opium given alone is apt to prove injurious, but when combined with purgative or diaphoretic articles, it produces good effect. Hyoscinmus, as a narcotic, has been proposed; and from its being less heating and stimulating than opium, promises well; we have, however, no experience with it in this disease. Anodyne enemata exert frequently the most speedy and happy influence, and when irritability has been lessened by them, the inflamed bowel should be soothed and kept from collapse and attrition by means of frequent injections with starch and the mildest mucilages. Opium in suppository may be employed when irritability is too great for the anodyne enema.

In cases of prolapsus ani, the part may be washed in a weak watery solution of opium, and afterwards anointed and returned. The warm bath is of signal service, and ought to be resorted to at an early period. The child should be kept comfortably warm; while he wears a roller of soft flannel, extending from the pelvis to the thorax.

Determination to the surface is to be attempted by diaphoretics, conjoined with aromatics and tonics; cataplasms to the extremities, and blisters over the abdomen. Thirst always attends dysentery, and the drink should be mucilaginous. When the discharges from the bowels become natural, being only too frequent, the drink may be composed of something slightly astringent. During convalescence great caution must be observed to guard against exposure and improper diet, for children are particularly liable to relapse into dysentery.

Cholera Infantum is an exceedingly distressing and often fatal disease, occurring in most of the towns and cities of the

United States. It appears during the summer and autumnal months, but most frequently in the heat of summer, and in our city the month of June is particularly marked.

This affection seems to depend on some epidemic, or peculiar constitution of the atmosphere of cities, and not on diet or dentition, as has been supposed; for if this were not the case, it would be met with indifferently in the country or town. These sources of irritation may aggravate the disease when formed; and these, with any other course of general mismanagement, by weakening, or otherwise impairing the health of the child, will lessen the vis conservatrix, and render him more liable to be acted on by such morbid atmospheric condition.

Cholera infantum usually appears during, or before the second summer, though cases do sometimes occur at a later period of life. There is reason to believe that its approaches are insidious, for when we inquire into the history and habits of the child, he is usually found to have been for some time in rather a disordered state; that he has had a feverish restlessness, with either a loss of appetite, or an inordinate one; and both these symptoms may be attended with more or less irritability of bowels. In most cases the child has shown some symptoms of diarrhœa, a few days, or even one or two weeks, before the attack of cholera is established. This looseness may be slight, and subside without occasioning any alarm, and afterwards when cholera comes on in its proper form, the nurse mistakes it for a recurrence of previous symptoms, and frequently much valuable time is lost, before the physician is made acquainted with the case.

The most prominent symptoms of cholera infantum are pyrexiæ, with great irritability and frequent dejections from the alimentary canal. The fever is either remittent or intermittent; and in the early stages, of an active character; the pulse is frequent, full and irritable. Soon, however, the fever changes its type, degenerating into typhoid, with a small, quick, slightly corded and highly irritable pulse, which gradually loses its force and sinks. Sometimes it is soft and yielding, offering no resistance on pressure. In those cases which occur in the fall months, the fever, in many respects, resembles the ordinary bilious intermittent, except that it much sooner falls into typhus.

The stomach and bowels are extremely affected: sometimes nausea amounts to spontaneous vomiting, and the contents of the stomach are found to be curdled and highly acrid.

The discharge from the bowels at first consists of undi-

gested feculent matter, mixed with bile; but in process of time, it comes to be little more than mucus, highly imbued with acid, and ill-looking bile, suspended in serum, bearing a grass-green colour, with a peculiar and overpowering fœtor. These matters appear to be rather mixed than chemically combined; and when the diaper is examined, the watery portion is observed to have strained through, leaving only a residuum of green mucus. Still later in the disease, the discharge again changes, having the appearance of dirty water in which putrid meats have been washed. Urine is scanty and highly coloured, containing an excess of uric acid, and is scalding to the delicate surface where proper care is not observed. This wasting disease soon reduces the infant to a mere shadow. The skin of his body becomes loose and shrivelled, the hands are long, and the fingers with their nails have a bluish appearance; the nails manifesting a tendency to bend over the ends of the fingers. The face looks shrunken and peaked, and the countenance resembles that spoken of in dysentery.

In the sinking stage of cholera infantum, the egesta are sometimes tinged with light coloured watery blood, or rather with a fluid composed of its red globules and serum, for the crassamentum appears wanting; there being in it no disposition to coagulate.

The prognosis in this disease are very difficult. We judge from the type of the fever, from the torpor and general wasting of the child, from the nature of the discharges, and the power of medicine to control them, from the alternate languor and wildness of the countenance, and from a want of uniformity of temperature. Strabismus, as far as our observation extends, is always a fatal prognostic.

Dissections exhibit more or less inflammation of the alimentary canal, especially on its mucous membrane; with dark spots, found particularly in the duodenum; while the pylorus is at times quite studded with them: the peritoneum not unfrequently partakes of the derangement. The liver is much enlarged, soft, and spongy, and the gall-bladder seems distended with dark green bile; and on looking a little farther, both the pancreas and spleen show evidences of engorgement.

The treatment of cholera infantum requires much consideration. In the commencement, if the symptoms are inflammatory, with pulses full and frequent, we may premise venesection; but great attention ought to be paid both to the blood drawn, and to the ability of the patient to bear this depletion, before we venture to repeat it. Blood-letting is by no means always, or even generally, necessary; and the readiness with which the fever degenerates into typhus, should render us par-

ticularly careful; for our patient will have full need of all his strength to sustain him through the attack.

The gums are to be strictly examined, and then the oppressed and irritable stomach is to be promptly and at once evacuated by emetic medicines, followed by a mercurial cathartic and oil, to complete the first indication in the alimentary canal. After this, the bowels should be gently, but continuously acted upon by such a combination of articles as will, while they purge, have a soothing, narcotic, and diaphoretic tendency. A useful prescription for this purpose may be formed of three or four grains of calomel with one of opium, and six or eight of ipecacuanha, mixed and divided into six powders; one of which may be taken every three or four hours. When irritability is great, opium and ipecacuanha may be given oftener than it is advisable to purge. In order to sooth the bowels and counteract acidity, the antacid, alkaline, and cretaceous preparations are useful. R. cret. ppr. ʒij. tinct. opii. gts. xv. sac. alb. ʒj. aq. font. ℥iij.—vel. R. pulv. rhei ℈ss. cal. mag. ℈ij. tinct. opii gts. xv. ol. anisi gts. x. sac. alb. ʒj. aq. font. ʒijj. These and such like combinations afford much relief. Charcoal given in divided doses, so as to be diffused along the tract of the intestines, absorbs acrimony and lessens fœtor. Extensive purging will not answer in cholera infantum, but irritability may be farther allayed by anodyne, mucilaginous, and starch enemata, as recommended under the head of dysentery.

Blisters are exceedingly beneficial in all stages, and may be applied to the abdomen and extremities. They should not be kept open, but frequently renewed. The warm bath, fomentations to the epigastrium, and flannel, may be resorted to, as prescribed under the foregoing head. Oleum terebinthinæ often acts very happily in this disease, and may be used externally, to the epigastrium; or internally combined with a portion of gum arabic and loaf sugar: it appears to address itself particularly to the mucous membranes. The cure of cholera is continued by astringents, cordials and tonics; the two last were spoken of under dysentery, and need not be repeated here. The best mineral astringents seem to be alum and the superacetate of lead, combined with opium: but the vegetable kingdom supplies much more valuable articles; the toasted rhubarb with magnesia, the tincture of kino with chalk, an infusion of nut-galls, colombo, hæmatoxylon, &c. &c. A popular and excellent astringent is found in the infusion of the root of dewberry, or the rubus villosus.

Whenever it is practicable, the child should be removed to the free and pure air of the country; but where this cannot

be done, he is to be placed on a pillow on horseback, once or twice in the day, and carried a short distance out of town; or he may be rowed as often in a boat: there is something in the fresh air from the water, very reviving to such exhausted patients.

Diet, in such cases, should be light, and its mother's milk is best. After this, the factitious milk mentioned before; and next, we prefer such articles as arrow root, tapioca, sago and salep, or the liquor from sound oysters. The arrow root, &c., may be prepared best as follows: take a heaping table spoonful of the article and mix it with a few tea spoonsful of cold water, then pour gradually on it a pint of boiling water or milk, according to the case, and suffer it to simmer a short time over the fire, decanting for use: if the patient's strength requires, a proper quantity of good old Port wine may be added. After the first stage, it will be necessary to support the child throughout the attack, and as the powers of the system give way, to add to its diet and medicines such cordial and corroborating portions, as may seem best suited.

Thirst is always an attending symptom, and the drink should consist of something mucilaginous: such as water, in which flaxseed or the bark of the slippery elm, has been steeped. A neat and popular drink is prepared by throwing a leaf of the sesamum orientale into a glass of water, and suffering it to stand until it renders the water soft and mucilaginous. The only advantage we can ascribe to this, over other articles of drink, is that the patient will take it as simple water, when he cannot be prevailed on to touch the elm or flaxseed.

The best system of prophylaxis may be gathered from considering the disease. Avoid the hot sun and night air; children should not be weaned within the year; the cold bath as recommended under the head of general management; flannel worn next the skin, and worsted or fleecy hosiery. Sea bathing, the air of the coast, and proper exercise, form not only the best prophylaxis, but the surest means of curing cholera infantum.

We have extended our observations on this interesting class of diseases, as far as seems consistent with the limits of an essay. There are other cases, such as the catarrheuma, and some of the specific exanthemata, which would have served farther to exemplify the doctrine of infantile excitability and association; but an old Greek proverb, than which none possesses more force, occurs to us, that "a great book is a monstrous evil;"

Μέγα βιβλίον, μέγα κακόν.

and with this reflection, we draw our speculations to a close.

MEDICAL PRIZE ESSAY.

We, the subscribers, a committee appointed by the Medical Society of New Jersey, at their meeting on the 13th May, 1828, at the city of New Brunswick, to examine the *Essays on Small-Pox, &c. &c.*, agreeably to the proposal made by the editors of the American Medical Recorder, have carefully performed the duty assigned us. On breaking the sealed note accompanying the successful essay, bearing the motto, "Cujus rei non est certia notitia, ejus opinio certum reperire remedium non potest. Verumque est, ad ipsam curandi rationem, nihil plus conferre, quam experientiam," found the author to be Stephen Brown, M. D., of the city of New York, to whom the premium is awarded.

AUGS. R. TAYLOR.
GILBERT S. WOODHULL.
WILLIAM VAN DEURSEN.

New Brunswick, Dec. 5th, 1828.

ART. II.—*A Dissertation on Small-Pox, Varioloid, and Vaccination.* By STEPHEN BROWN, M. D., of New York.

WHAT is the nature and extent of the prophylactic power of the kine-pox? the cause of its failure to prevent the small pox? also, the nature of the varioloid? is it a variety of variola? under what circumstances is it communicated, and may it be *communicated to the same individual more than once?*

When we reflect, that for centuries the small-pox proved fatal to more than one-tenth of the whole human race, this subject is presented to us as one of great importance. Vaccination having been discovered, and declared by eminent writers to afford a complete protection against the small-pox, this scourge, after no long period, appeared almost exterminated, and physicians, for many years, placed the most unlimited confidence in its prophylactic powers. The recent appearance of epidemic small-pox, however, in different parts of Europe and America, and affecting not only the unprotected, but many of those who had undergone the process of vaccination also, has overturned the faith of some, and staggered it in others; and as men are prone to extremes, and the order of nature seems to be, that one extreme shall follow another, there seems a danger that the prejudices recently excited against the preventive efficacy of the kine-pox, may prove a barrier to the high advantages of vaccination. Vaccination, therefore, merits that support which its safety, efficacy, and obvious bene-

fits require. In order fully to illustrate our views of this interesting subject, we will commence with the small-pox.

Origin of Small-Pox.—In what age or country the small-pox had its origin, is not certainly known. We will endeavour to show, however, that it originated in the *East:* and in either India or China. The Arabians gave the first accounts of this disease, among whom it appears to have been common for some centuries before it made its appearance in Europe. Rhazes was one of the first and best of the Arabian medical writers. He was a Persian by birth, and practised physic at Bagdad. He wrote a work upon the small-pox, in which he states that he was the first author who treats *expressly* of that disease. This work was translated from the original Arabic by Dr. Hunt of Oxford, at the request of Dr. Mead, and is subjoined to the work of the latter on small-pox and measles.

Both Rhazes and Avicenna, another writer of note among the Arabians, give an accurate and circumstantial history of the distinct and confluent small-pox, with their favourable and unfavourable symptoms. The method of cure adopted by them, and followed by other Arabian writers and practitioners. This consisted in "the antiphlogistic regimen, as bleeding, cool air, acidulous fruits, spring-water, or water cooled with snow, and buttermilk; they direct the body to be kept soluble with the juice of prunes, &c., and in general, though not strictly, forbid the use of animal food, as oils, butter and cheese, and recommended vegetables of the cooling and subacid kind.

This was substantially the treatment first adopted by Sydenham, and recommended to the English nation six or seven centuries after Rhazes wrote, and although the English physicians, from their absurd notions of the humoral pathology, did not fall into this mode of practice till half a century after, yet it finally became general, and has ever since been regarded by our best physicians as the proper method of treatment.

The work of Rhazes was written in the ninth century, and he speaks of one Aaron having written some account of the small-pox, as it appeared at Alexandria about the beginning of the sixth century, when that city was besieged by the Saracens. But his writings are lost, and the description of the small-pox by Rhazes is the most ancient of any which have been preserved. The small-pox was epidemic at Alexandria at that time, and it is the general opinion of learned men that it was introduced there by the Arab invaders.*

There are also some plausible accounts, which are entitled

* See Walker, Mead, and others.

to credit, of its having prevailed as an epidemic in the army of the Arabian and Abyssinian Christians at the siege of the pagan city of Mecca in 522, about the time of the birth of Mahomet.*

If we go further back than this period, we must be guided somewhat by the opinion of Rhazes and other Arabian physicians, but more especially by the sacred books of the *Gentoos*, with regard to the great antiquity of this disease. For it was unknown to Hippocrates; and none of the Greek or Roman authors give any account of it; and although the Romans extended their conquests over Egypt, Greece, Syria, and part of Asia, long before the commencement of the sixth century, and this infectious disease never appearing among their troops, is a plain evidence that it had no existence among them at this time, and renders the probability very strong that it was introduced into Alexandria by the Saracen invaders.†

How long it had prevailed in Arabia, previous to the dates above spoken of, cannot be determined. For previous to the birth and reign of Mahomet, this country was in an uncivilized and barbarous state, of course we could not expect to be able to derive any very special information with regard to the origin of small-pox among their tribes. Rhazes appears to have considered the disease as natural and necessary to the constitutions of mankind, and as his works were in high repute with his countrymen, upon his authority most of them entertained the belief that this disease was coeval with the race of man. It is, however, strongly probable that it was more ancient in Hindostan than in Arabia. The question is naturally suggested, the small-pox being so contagious a disease, how it should have been confined to their tribes for any considerable length of time. This can be readily accounted for, from the very little intercourse which these people held with the surrounding nations; and being separated almost exclusively, by impassable deserts, no intercourse was sought for by others, or encouraged by them, except a limited trade with Hindostan. The reign of Mahomet gave rise to a new and interesting era in the history of that country. The religion and politics

* Dr. Mead states that there is an Arabian manuscript in the University of Leyden which bears testimony to this fact.

† "The burning of the Alexandrian library," says a writer of the last century, "forty-eight years before the Christian era, and the total demolition of it six hundred years after, by the irruption of the Saracens, no doubt deprived the world of an inestimable treasure of knowledge, yet from what has been observed, the history of the small-pox could be no part of the vast collection of manuscripts that were destroyed; the disease at that time being unknown in Egypt or any part of the Roman empire."

introduced among the Arabians, by this artful man, excited such a zeal for the interest, and devotedness to the cause of their master, that he soon commenced the work of conversion and subjugation of his neighbouring tribes, and so powerful an incentive were the means employed, that in a very few years he compelled all the surrounding nations to bow with submissive homage to the *crescent*. The Arabians now emerged from a state of barbarity, and began to cultivate the sciences, particularly physic. Their caliphs took the lead, and collected many writings of both Greek and Roman authors, and had them translated into their own language; and for many centuries, Arabia became the seat of the arts and sciences. It was during these conquests that the small-pox was introduced into other nations. It prevailed at the siege of Alexandria, about the beginning of the sixth century, and no doubt the Arabs carried it there. And it is equally probable that they conveyed it into all the countries which they subsequently conquered.

In the eleventh century, the confederacy of the Christian states (called the Crusades) was formed against the Saracens for the recovery of the Holy Land; and this undoubtedly was the great source of spreading the small-pox through the nations concerned in that enterprise. Dr. Mead thinks it was introduced into Great Britain about that time, and in this manner.

John of Gaddiston, an English physician, speaks of the disease being very common in Britain about the close of the twelfth century.*

We before remarked that the small-pox had its origin in the east; and in China or India. Agreeably to the accounts of some jesuit missionaries, who formerly resided at Pekin, the Chinese fix the first date of this disease in the year 1122 before Christ, and assign their country as the spot where it first made its appearance.†

In support of the opinion entertained by some learned men, of the great antiquity of the small-pox in Hindostan, the *sacred books* of the *Gentoos*, as ascertained by Mr. Holwell, give great weight. This gentleman is said by Mr. Walker, to have possessed rank and character, and to have resided many years in India, about the middle of the last century; and published a judicious account of the small-pox, embracing the eastern mode of inoculation and practice.

In speaking of the prior existence of this disorder among

* See Walker on the Small-Pox.

† "Pere Entre Colles, Lettres Edif. et Curieuses," quot. by Bell.

the Hindoos, agreeably to an opinion formerly entertained by Dr. Friend and others, he remarks, "the sagacity of this conclusion, later times and discoveries have fully verified. At the period in which the *Anghtorrah Bhade* scriptures of the Gentoos were published, (according to the Bramins, 3360 years ago,) this disease (small-pox) must then have been of some standing, as those scriptures institute a form of divine worship with *poojahs* or offerings to a female divinity, styled by the common people *Gooteeka Tugoran*, the goddess of spots, whose aid and patronage are invoked during the continuance of the small-pox season, also in the measles and every cutaneous eruption that is in the smallest degree epidemic. Due weight being given to this circumstance, the long duration of the disease in Hindostan, will manifestly appear; and we may add to the sagacious conjecture just quoted, that not only the Arabians, but the Egyptians also, by their early commerce with India through the Red Sea and *Gulf of Mocha*, most certainly derived originally the *small-pox* (and probably the measles likewise) from that country, where those diseases have reigned from the earliest known times."*

In support of this opinion also, Mr. Walker adds, "that it receives additional credit, by a similarity of practice in the cure of this disease, observed by the East Indians and Arabians, which it is probable these last could only gather from the example of the Bramins; for besides the cooling regimen employed by both, their constant attention to puncturing of the ripe pustules, is a strong presumption of the Arabians borrowing this usage from the Indians. Most of the Arabian writers takes notice of this." Avicenna observes, "Quando egrediuntur variolæ cum complimento et putransit septima, tunc necesse est ut rumpontur cum facilitate cum acubus de auro, et anferatur humiditas cum cotto."† Thus not only the sacred books of the Gentoos, but the profound skill and wonderful success of the Bramins in treating this disease, long before Rhazes described it, confirm the opinion of Mr. Holwell, Dr. Hahn, and the learned Dr. Friend, that it prevailed in India from early times. For the English physicians did not even adopt the cooling regimen, until the small-pox had prevailed in that country for five centuries;—Sydenham, as we before remarked, was the first who recommended it. Whereas this method of treating it, together with the very successful one of puncturing the pustules in confluent and se-

* Holwell's Account of Inoculation, &c p. 6, 7, 8.
† Avicenna, tom. ii. lib. iv. fin. 1, cap. 10, p. 75.

vere cases, was pursued as long ago as any certain accounts of the disorder can be traced.

At the time of the discovery of America, the small-pox was entirely unknown upon this western continent. It was carried by the Spaniards to St. Domingo in 1517, when it made tremendous havoc among the inhabitants of that island. Some time after this, it spread through South America. It has been computed, that in the city of Mexico alone, three millions and a half of its inhabitants died of this disease, soon after its introduction. It did not prevail in North America until the beginning of the seventeenth century, and first appeared in Virginia. Its first appearance in New-England, was at Boston in 1649. Since that period it has spread throughout the country.

Inoculation.—The Chinese lay claim to this discovery, and pretend that it was practised in their country as early as A. D. 59. Whether we admit their claim or not, we think there can be no doubt but that it originated in the east.* This is the more general opinion, although it claims a high degree of antiquity in some other countries. After its introduction into England by Lady Mary Wortley Montague, and excited much general conversation as a foreign invention, it was found (to the great surprise of the learned) that it had been known in South Wales as far back as tradition could be traced. And it is a remarkable circumstance, that it had been there communicated artificially under the denomination of buying the small-pox, exactly in the same manner as in Africa and Turkey.† The manner of operating was by rubbing the matter upon the skin, or inserting it under the cuticle with pins. The practice has high antiquity in Africa, agreeably to the opinion of Mr. Bruce.

It is curious to observe the different modes of inoculating in different countries. In the Highlands of Scotland, where the practice existed long before it was introduced into England, they tied worsted threads, contaminated with the matter, round the wrists of children. The Chinese performed inoculation by introducing dried pustules, with aromatics, into the nostrils. In Hindostan this operation was practised by a particular tribe of *Bramins*, by means of a slight puncture over which they tied a rag impregnated with variolous matter, accompanying the operation with superstitious observations.

* Shaw (Travels in Barbary and the Levant) and La Condamine (Mem sur Inoculation) support this opinion.

† Edinburgh Encyclopedia, art. Inoculation.

After the practice was introduced into England, it met with a strenuous opposition, and did not become general for many years. Many of the faculty opposed the practice. Some of the clergy also reared their heads against it. The Rev. Mr. Massy maintained, in a public sermon, that the "cutaneous disease of *Job* was produced by inoculation from the hands of the *Devil*, and that the whole art was of *infernal invention*."* One of its most powerful opponents was Dr. Wagstaff, he wrote much, and displayed powerful arguments against the practice; some of the most convincing were, the insecurity of inoculation against the natural small-pox, by its exciting other diseases in the constitution, as scrofula, &c., and more especially by keeping up a focus of contagion, as it were, in every person inoculated, and thereby endangering every unprotected person coming within its sphere of action to the natural small-pox. And at the present day, I believe that there is but one opinion among writers with regard to the merits of inoculation; and that is, that the great mass of the community are sufferers by it. The arguments against it may be given in few words; and

1st. In particular families, and in particular states of the constitution, as in pregnancy, the small-pox, even by inoculation, is a dangerous disease.

2d. Diseases are frequently excited by inoculation, to which a disposition pre-existed in the constitution.

3d. If the practice be generally encouraged, the numerous sources of infection, thus artificially created, would preclude every possibility of extinguishing the disease; and must greatly increase its mortality.

Dr. M. Good observes, "we may fairly affirm, that the deaths by small-pox, since its introduction, have increased in consequence of the more extensive diffusion of variolous contagion, in the proportion of fourteen or fifteen in every hundred. The danger and impropriety of the practice was such, in the eyes of the wise and philanthropic, that long before the discovery of vaccination, laws were enacted in some of our states, forbidding the practice of inoculation, under severe penalty.† This was wise; and had vaccination never been dis-

* This sermon was delivered especially against the practice of inoculation, in 1722, with the text, "So went Satan forth from the presence of the Lord, and smote Job with sore boils from the sole of his foot unto his crown." Job ii. 7.

† In the state of Virginia it was not permitted, unless in cases where, by the accidental occurrence of the disease, persons unprotected were exposed, and then they were cut off from society, and confined in pock-houses in distant woods, or places remote from the ordinary walks of men.

covered, the practice of inoculation ought to have been, and still to be, entirely prohibited, except in the cases of exposure. If there be any therefore, as I apprehend there are, (in fact, some have so expressed their wish to me) desirous to return to the old method of inoculation; duly reflect and forbear, and reflect again, before deciding upon such a step. For independent of all the objections which we have made against inoculation, not one of which applies to the mild ailments (I would not say disease) of the kine-pox, the security which the latter affords against the small-pox, with all its failures, is much greater than that which the former gives. This point we shall endeavour to make out fully in the subsequent part of this essay.

Symptoms of Small-Pox.—As we shall find it necessary, in the progress of this essay, to compare the symptoms and stages of the varioloid disease with those of the small-pox, a brief account of the symptoms of the latter appears necessary. Those preceding the eruption are lassitude and debility, listlessness and indisposition for the common actions of life, the patient inclines to yawn, and desires rest and heat These symptoms are frequently followed by a sensation of cold which proceeds to a severe fit of shivering, that lasts an hour or more, during the latter part of the cold fit vomiting comes on, and continues at intervals till the eruption appears. The cold fit is succeeded by ardent heat, a quick, often a strong and hard pulse, thirst, watery and inflamed eyes, accompanied with cephalalgia, sometimes delirium, great anxiety and restlessness, a parched tongue, high-coloured urine, costiveness, flying pains in the limbs, and pain in the back, and pain or tenderness at the pit of the stomach. We would not pretend that each of the above symptoms occurs in *every* case, nor in the order we have laid them down, but vary in different individuals. It will appear that several of these symptoms, in fact, the most of them, are common to fever: we will therefore point out the *pathognomonic* symptoms. These are, firstly, coldness of the hands and feet, particularly the latter; secondly, obtuse pain about the epigastric region; and thirdly, severe pain in the back. This last symptom is a peculiarity of the confluent and bad cases, which appears to have been greatly overlooked by writers who have attempted to describe the disease. The back is frequently so painful and tender, that the patient cannot bear his weight upon that part, and constantly reclines upon his side. The whole attention of the physician is directed to this part. My attention was more particularly attracted to this peculiarity of the disease in the epidemic small-pox in

the winter of 1823—4. The first case that occurred in my practice, was of the confluent character, and proved fatal. While the patient was labouring under the febrile stage, the pain and tenderness of the back was so distressing that he appeared in awful agony. In speaking of this circumstance to a friend, he remarked to me that he had just been called in consultation upon a case of confluent small-pox, in which this part was so painful before the eruption, that the principal attention of the attending physician had been directed to it, and he had not only bled, but blistered, the back of the patient extensively, supposing the disease to be inflammatory rheumatism seated in the back. It proved to be a fatal confluent small-pox. I have myself often made local application to the back for relief, but experience has now enabled me to detect these cases almost invariably, which I have repeatedly done at the City Hospital, where cases of small-pox are excluded by the rules of the institution. If a patient applies for admission, with febrile excitement, heavy watery eye, hot skin, *cold hands* and *feet*, with pain in the *head* and *back*, I put the simple question, which pains the hardest, the head or back? if the answer be the latter, I hesitate not to pronounce it small-pox, and the sequel of the case generally proves it to be so. In recently searching authors upon small-pox, I find that Dr. Walker takes particular notice of the distress in the back. In describing the symptoms preceding the eruption, he remarks, "although *lumbago* sometimes accompanies other acute diseases, as it more frequently occurs in small-pox of a bad kind, I think it ought to be considered a discriminating symptom."

On the third or fourth day the eruption begins to make its appearance, when all the symptoms above described abate, and in the milder cases subside entirely. The first appearance of the eruption is in little red points, like flea-bites, upon the face and superior parts of the body, and gradually extends down. These papillæ increase, and by the third day, when examined accurately, are discovered to contain a thin ichor which gradually acquires a more purulent appearance, and by the fourth or fifth day they are perceived pitted or depressed in the centre. On the seventh or eighth day the true figure of the pustules is best observed; and in the benign kind, the pustules assume a plump globular shape, which form perfect circles at their base. About this time, those upon the face assume a pale straw-colour; and on the eighth or ninth day are generally at the height. By this stage of the disease in the confluent cases, and indeed in all, where the eruption is full, the face is more or less swollen. This swelling now leaves the face and goes

to the hands and feet, and it is always considered a favourable symptom if the extremities swell as the tumefaction of the face subsides. The pustules now are yellow on the face, and begin to discharge a thin purulent matter; which, agreeably to the opinion of Mr. Walker, transudes through the very thin and distended cuticle; others think that the cuticle bursts; whichsoever mode be the true one, it always escapes very gradually. At the time of this change of the pustules upon the face fever sets in, if it had before ceased, if not, it now becomes increased. As the matter ooses out it hardens upon the surface into scabs, which at first assume a brownish tinge, but gradually become quite brown or black; and from the ninth to the thirteenth or fourteenth day, is the most dangerous time of the disease. For death rarely takes place before the ninth day, and if the patient live until the fifteenth, he generally recovers.

There are numerous varieties pointed out by writers upon this disease, from differences in the appearance of the pustule; as variola discreta, silignosa, verrucosa, confluens nigra, vesicularis, sanguinea, corymbosa, petechialis, &c. These are different grades of the same disease, appearing in different persons, in different years, occasioned by difference in temperament, and probably, somewhat by atmospheric influence. There is also a variety which has been called the *crystalline* or house-pox, which appears to have been named from the clearness, and semitransparency of the scab. This condition of the scab is owing to their forming in the vesicular state of the eruption, which burst, and the thin serum dries up in crusts or scabs of a pale straw-colour. This variety has been observed to take place more particularly in those persons who have suffered a second attack of the disease. This variety of the small-pox deserves particular attention, as it is strikingly analagous to the varioloid disease. The pustules are sometimes of the indented form and globular, but more generally they are conical and pointed, but always dry up while they contain nothing but serum.* Dr. Monroe observes, that in "the milder cases of secondary small-pox; the pimples pass at once from the state of vesicle to that of incrustation."

Treatment.—Since the general introduction of vaccination, and the disappearance of small-pox from almost all parts of

* Dr. Bell quotes Dr. Farquarson, as having stated that in the course of his extensive practice, he had occasion to meet with upwards of one hundred cases of it; and he regards the horn-pox, which occurred before vaccination was practised, as a kind of small-pox, modified by a previous attack of that disease, exactly in the same manner as is now observed after cow-pox.

the world, physicians have paid very little attention to that old enemy of the human family, supposing that it had beat a final retreat. But the recent assaults which he has made in different parts of the world, and in our own country of late, calls loudly for the discipline of our art. When once this disease takes hold of the system, it cannot be arrested, but pursues its course regularly through its different stages. Our great endeavour should be to moderate its violence. Previous to the days of Sydenham, the heating regimen was generally pursued, and under this treatment the small-pox was very mortal; when the opposite plan of treatment became general, the fatality of the disease was greatly diminished.

We cannot better give our views of the proper degree of the cooling regimen, as most beneficial in small-pox, together with an exhibition of its salutary tendency, than to give the following case in detail.

A. B., aged thirty-five years, of the choleric temperament, was taken with the usual symptoms of small-pox in March last; had no protection by either a previous inoculation, or vaccination; and from the fact that he had taken rather freely of ardent spirits for some time previous, I anticipated a dangerous disease. At the early appearance of the febrile symptoms I bled him, and gave him a cathartic, put him into a room in which there was no fire, and enjoined a very low diet. The room was so cool at that season, as to be hardly comfortable; he kept out of bed as much as possible through the day, and at night was lightly covered. The first appearance of the eruption was quite numerous, threatening the confluent character, but as they increased in size the numbers diminished, and at the eighth day the eruption was full, globular, and distinct; and the subsequent course of the disease was attended with a very slight fever.

There can be no doubt but that the stage previous to the eruption, and the first two or three days after, is the most important time for the physician's efforts to give a mild character to the disease. But from peculiarity of temperament, bad habit of body, bad management, by warm rooms, much covering, with heating and stimulating drinks, from ignorance of the disease or its proper management, a copious eruption is produced, and when produced, proceeds to the contiguous or confluent character; and the secondary fever and danger of the case is much in proportion to the amount of the eruption. As the European and American practitioners have never adopted any course of treatment, which appears to be attend with a general beneficial result in this stage of this

terrible disease, we would take the liberty to invite the attention of the profession to the practice in Hindostan, and then to some recent observations of the French writers upon the treatment of the pustular stage.

It was a fact known to some of the English, as far back as the middle of the last century, that the Bramins were much more successful in treating the small-pox, even in that warm climate, than the European practitioners, with all the advantages of a cooler climate. Mr. Holwell, resided among them many years, and having seen much of their practice, gives a particular description of it, which I will transcribe.

"The eastern practitioners" says he, "with great modesty arraign the European practice of phlebotomy and cathartics, in any stage of the disease, but more particularly when designed to mitigate or prevent the second fever; alleging that the first weakens the natural powers, and that the latter counteracts the regular course of nature, which in this disease invariably tends to throw off the offending cause upon the skin; that she often proves unequal to the entire expulsion of the enemy, in which case her wise purposes are to be assisted by art, in that track in which she herself points out, and not by a diversion of the usual crisis by another channel; that this assistance can only be attempted with propriety by emptying the pustules, as thereby fresh room is given in them for the reception of the circulating matter still remaining in the blood, and which could not be contained in the first eruption; by which means every end and purpose of averting or subduing the second fever is obtained with a moral certainty; whilst phlebotomy and cathartics administered with this view, are both irrational and precarious, as being opposite to the constant operations of nature in the management of this dreadful disease."

With regard to their mode of opening the pustules, he says that they prefer for this purpose a sharp pointed thorn; experience has established the use of this natural instrument, in preference either to scissors, the lancet, or needle; the practitioners perforate the most prominent part of the pustule, and with the sides of the thorn press out the pus: and having opened about a dozen, they absorb the matter with a calico rag dipped in warm milk and water, and proceed thus until the whole are discharged. The orifice made by the thorn is so extremely small that it closes immediately after the matter is pressed out, so that there is no admission of the external air into the pustule, which would suddenly contract the mouths of the excretory vessels, and consequently the further secretion of the variolous matter from the blood would be thereby ob-

structed. For this consideration the method recommended by Dr. Tissot of clipping the pustules with sharp pointed scissors is certainly liable to objection, as the aperture would be too large when in the confluent kind and no distinct pustules present, they perforate the most prominent and promising parts in many places at the distance of the tenth of an inch, usually beginning at the extremities; and I have often seen the pustules in the contiguous, and the perforated parts in the confluent kind, fill again before the operation was half over: yet they do not repeat the opening until a few hours elapse, conceiving it proper that the matter should receive some degree of concoction in the pustules, before it is again discharged."

We would also add from the same author, that, "so great is the dependence which these practitioners have on opening the pustules in every malignant kind of the disease, that where the fluid state of the matter has been suffered to elapse without being evacuated, they pronounce the issue fatal and it generally proves so. In very critical cases, they will not trust the operation of opening the pustules to nurses or relations, but engage in it themselves with amazing patience and solicitude; and I have frequently known them thus employed for many hours together; and when it has been zealously persevered in, I hardly ever knew it fail of either entirely preventing the second fever, or mitigating it so much as to render it of no consequence."

The following remark of Mr. Holwell on this practice is highly interesting.—"In various instances, which I have been a witness to, in my own and others practice, I have seen the pustules in the contiguous kind, upon being successively opened, fill again to the fourth or fifth, and the confluent to the sixth, seventh and eighth time; in the very distinct sort, they will not fill again more than once or twice, and sometimes not at all, which was a plain indication that the whole virus of the disease was expelled in the first eruption."

Thus it appears that this practice is completely successful in the generality of even the malignant cases. So that it is of no consequence to inquire whether secondary fever under the influence of which death generally takes place in small-pox, be occasioned by absorption of matter from the ripe pustules, as was the general opinion, or from the great quantity of variolous ichor generated in the system, as was the opinion of Mr. Walker, and some others.

The knowledge of these facts are of vast interest to the medical world, and, it seems probable, that if vaccination had

not been discovered, that the eastern practice would have been adopted long before this, in England from this information from so respectable a source.

We would here mention the discovery of Mons. Valpeau as it might be attended with as beneficial effect as the eastern practice. In a memoir read before the academy of medicine of Paris, tending to prove, that if during the first two days of variolous eruption, we cauterise the pustules by means of a probe dipped in a solution of the nitrate of silver, the progress of the pustules will be arrested. If this be done at a later period, the duration of the pustules will be curtailed, and at all events the marks of their existence will be entirely prevented. He appeals to Messrs. Britanneau, Billard, Dumeril, and Serres for evidence of the truth of these assertions.

If this be confirmed by other practitioners, it will be of considerable importance both in a cosmetic, as well as pathological point of view. Whether it has ever been tested on confluent and malignant cases in order to ascertain its efficacy in preventing the secondary fever, I have never learned. We have no doubt however that a trial of its efficacy would be perfectly safe, and intend to make one, when a favourable opportunity occurs.

OF THE VARIOLOID DISEASE.

This disease has visited, in the shape of an epidemic, many parts of Europe, and also America, within the last ten or fifteen years. It is a febrile eruption disease. Its primary symptoms are similar to the mild cases of small pox. Fever, for the same number of days, attended with pain in the head, back, and limbs, with cool extremities, precede the eruption. The eruption, in the very mild cases, arrives to its height about the fourth or fifth day, having a conical shape, and more projecting from the surface than the unmodified small pox; of course have a more rapid growth. But in the severest cases, the vesicles do not arrive at their full growth until the seventh, eighth, or ninth day, when they have precisely the same external appearance as the small-pox pustule—have the same size, rounded shape, and pit, or indentation, in the centre. At this period, these vesicles suddenly dry up, and fall off in thin semi-transparent scales of a pale straw colour, leaving the surface they occupied projecting beyond the natural level, so as to give the whole body (particularly the face) a tuberculated appearance. This peculiarity obtains in all cases, the mild as well as the most severe. Secondary fever never occurs, even in the worst cases.

Although practitioners, generally, who have seen much of this disorder, are satisfied of its character, yet there were some during the late epidemic; men of respectable standing too, who pronounced it "*a violent grade of chicken pox.*"

Whether these gentlemen, have, from further experience and observation, become convinced of their error (allowing the chicken-pox and small-pox to be two distinct diseases) I do not certainly know:—some of them I believe have formed a different view of this disorder.

And if the experiments which have been made, by inoculating the unprotected with the matter obtained from the Varioloid vesicle had been more numerous, we might offer them, without further argument, as conclusive proof of the true nature of Varioloid. But as objections may be raised against those cases which we will detail, as not sufficiently infallible we will proceed to offer corroborative support, and hope to be able to render the whole conclusive.

To prove the Varioloid a modification of Variola, some late writers have laboured hard to establish the correctness of the opinion held universally by physicians previous to the days of Heberden, that the chicken-pox is a "mild species of small-pox. This author first described the chicken-pox as a specific infectious disease, entirely different from the small-pox. Writers have generally, followed in the same track, giving a separate place to chicken-pox, until quite recently, many convincing arguments have been advanced by several writers of high respectability to establish the identity of the two diseases; and those who may wish to become acquainted with the reasons and arguments advanced in support of this doctrine I beg leave to refer to the authors above alluded to.* Whether their reasonings be sufficient to support their doctrine or not, is not material, to our present purpose, as we think the identity of small-pox and the Varioloid can be fully substantiated without that point being established.

About the middle of December, 1823, C. T. a student of medicine in my office aged 18 years, of choleric temperament, having about two weeks previously, been exposed, in his anatomical pursuits, to a body which had died of the confluent small-pox, was seized with a chilliness, pain in the head and back, followed by febrile excitement, which continued three days, when his face become thickly covered with small red points like flea bites. At this time all febrile excitement and

* See Account of the Varioloid epidemic with observations on the indentity of chicken-pox and small-pox by J. Thompson, M. D. also Bell on the small-pox. N. Y. Medical and Phys. Journal, vol. 4th.

pains had left him, and the nature of his complaint was suspected, as the Varioloid and small-pox had been making some progress in the city for some weeks previous, but no cases had occurred under my observation. The eruption extended gradually down and covered, thickly, the whole surface of the body. On the 5th day the papillæ had become vesicular, having the indented form as in small-pox. On the eighth day, they were full, plump and globular, and so full upon the face as to be *contiguous;* and the face so much swollen as to close the eyelids. I now thought this case would prove to be one of genuine small-pox entirely unmodified by his previous vaccination: and when I was looking for *secondary fever* and the bursting of the pustules, and discharge of matter, those upon the face dried up suddenly and fell off in thin semitransparent scales of a straw colour, leaving the face much warted, or tuberculated, and within 24 hours the remaining parts of his body scaled off in the same way without any fetor about his person, or matter oozing from a single pustule, or even a shade of fever.

The mother of this young man stated that he was vaccinated in this city when a child, by one of our most distinguished physicians, and at the proper stage had so fine a pustule that "several physicians took matter from his arm to vaccinate other children with." We wish the reader to observe this remark, as we hope to make some useful suggestions, under the article of vaccination, in relation to the impropriety and danger of interfering with the regular progress of the vaccine vesicle either by design or carelessness, which the above, and many similar cases have discovered to us as important.

In about two weeks and a little more,* ten other persons in the same house sickened; one, a brother; another, a sister of C. T. and the next younger in the family: one a servant girl, and the remaining seven, were boarders in the family. In two of these the disease proved to be genuine small-pox and in one of them it proved fatal. He was a young man, from the country about 25 years of age, and had no protection by previous small-pox or kine-pox. It was in this unfortunate case, I first remarked, that peculiar distress in the small of the back which I so particularly mentioned in the description of small-pox. He frequently spoke of it as agonizing, and the tenderness was so great he could lie only upon his sides. This distress subsided with the appearance of the eruption. It was a confluent case, and he died the 13th day of the eruption. The other was in the servant girl, who it was said had been vacci-

* Of the eruption of C. T.

nated, although I had no proof of it. The eruption in her was but very little fuller than in C. T. But instead of drying off in scales as in his case, or the ninth on tenth day secondary fever set in, the pustules had turned yellow and began to ooze matter with great fetor. The pustules burst and discharged, and left her much pitted.

The remaining eight cases were in persons who had all been previously vaccinated. They were all young men except the brother and sister of C. T, one 15 the other 14. In all these the disease was very light. For two or three days preceding the eruption, they had considerable febrile heat and quickness, of pulse, with pain in the head and back, all which ceased immediately upon the appearance of the eruption. The eruption was slight in all of these cases,—in some not to exceed half a dozen. And in each case arrived to its height and dried off in four or five days, leaving the spots covered by the vesicles projecting beyond the natural surface. I did not discover an indented pustule but in one of these eight.—They were all of the conical or horny kind.

From these cases of illness in that family, with the attending circumstances, naturally result the following reasoning and conclusion.

1st. C. T. sickened and went through with the form of disease I have described: and in a short time after this, eleven other cases of illness occurred in the same house, nine of which were exactly similar, and the other exactly similar to each other; and apparently a severer grade of the same disease as the nine. Here it appeared could have been but *one cause* acting much at the same time upon all these persons to produce these effects. 2dly. There was no cause whatever, that these persons were exposed to, that could excite, their individual sickness, but the illness of C. T. 3dly. as C. T. had a disease so analogous to ordinary contiguous small-pox, and as a suitable time elapsed between the eruptive stage of the case of his disease as is usual for small-pox virus to lie in the system when taken the natural way, before the first symptoms in the other ten cases made their appearance, and particularly as two of these cases were genuine small-pox (one very malignant) I drew the conclusion, *unequivocally*, that the case of C. T. was small-pox modified by some cause (doubtless by vaccination,) and that all the others proceeding from small-pox contagion emanating from his body, and hence that all the cases were *small-pox.*

Many other cases have occurred under our observation, of the unmodified small-pox and the varioloid occurring in dif-

ferent individuals of the same family, and neighbouring families, which appeared, evidently, to have arisen from exposure to one and the same source of infection; the latter occurring always in those who had been previously vaccinated. But we do not think it necessary to go much further into detail, to establish the identity of the two diseases. We will relate one other case however, more particularly, with a view to show the danger there is in interfering much with the progress of the vesicle, and also to show the exact similarity of the symptoms preceding the eruption, in the most violent cases of varioloid and small-pox.

C. L. a girl aged sixteen years, was a servant in a family where one child (a boy aged 7 or 8 years) had a very mild attack of the varioloid, by being exposed to infection in going to school. Soon after this, she was taken with the usual symptoms of chilliness, followed by great rapidity of pulse, heat of skin, heavy eyes, pain in the head and back, with tenderness at the pit of the stomach, with sickness and vomiting. So great was the pain in the back, and so tender even to the touch (and she could lie only on her side) that, notwithstanding the case of the child had occurred in the family as above mentioned I did not suspect in her case either small-pox or varioloid, but it appeared to me to be active inflammation seated in the loins and back, as, to that part, she referred all of her sufferings. I had recourse to bleeding, blistering, and other topical applications but with no relief. On the third or fourth day I had the mortification to see her face thickly covered with red points, like flea bites, which, at once, discovered the nature of her disease. Her pains had now much abated, and soon ceased entirely. I soon ascertained she had had the kine-pox, from a large scar upon her leg, and also from the testimony of her mother; but from the extreme severity of her symptoms, particularly the affection of the back, I anticipated a serious case of unmodified small-pox. The papillæ thickly pervaded the whole surface of the body, and all febrile excitement and pain ceased. The vesicles presented the indented form, and increased in size, till the eighth day. At this time, her face was covered, and the pustules in some spots ran together. By the close of the ninth day the vesicles had all dried and fallen off in scales of a pale straw colour, leaving the surface knotted as in other cases of varioloid. Upon enquiring particularly with regard to the circumstances of her vaccination, I was told, that she had a "very fine pock, and that six different physicians took matter from her arm." The scar had a good appearance. My observations in relation to this disease during the winter

of 1823-4 and subsequently, (this disease, as well as unmodified small-pox has existed more or less in our city ever since) has fully confirmed me in the opinion that the variolid, is a mild grade of small-pox, rendered so by the previous operation of vaccination upon the system. In fact, the cases of C. T. and those which occurred in the same family, although they were the first cases we had witnessed, so full was the evidence, as even then to establish our opinion. And we have since not thought ourselves justifiable in applying that test which would carry conviction into every mind, even those who had no opportunities for observation, viz. to vaccinate an unprotected subject with the lymph obtained from a varioloid pustule; more especially as we are not warranted by the experience of our predecessors, to look upon all cases of inocculated small-pox as free from danger, while that of vaccination is invariably safe. But as such experiments have been made, and as full testimony appears important to completely establish this point we will notice a few of the more interesting.

Professor Macneven* states that during the winter of 1824, Mr. L. a pupil of his, who had been vaccinated in his infancy by the late Dr. Richard S. Kissam, sickened with that form of disease called the varioloid, from exposure to that source which affected a great many students of our Medical college.† He had a full crop of the eruption, which did not dry away, on the fourth or fifth day as in the generality of cases, but continued to the ninth, when they had filled and soon desquamated.

On the sixth day he took lymph from one of the pustules and "inoculated with it a healthy boy about five years old, who had never been vaccinated or inoculated. He sickened on the seventh day following, had much fever, succeeded by an abundant, distinct eruption, and a regular benign small-pox, that passed through all the usual stages."

The following experiments were made by Dr. Bogert of this city.—A quantity of lymph was taken on the point of a lancet from a patient suffering under the varioloid disease, on the third day of the eruption, and inserted in the arm of a healthy child of seven years of age, who had neither been vaccinated nor inocculated. Three days after, the point where it was inserted became red and inflamed; a small pustule followed, which contained a fluid on the eighth day. At this time the child sickened and was confined to its bed. The next day about thirty pustules appeared on its body and extremities. But five of

* See N. York Med. and Phys. Journal. Vol. III. p. 216.
† About forty of them sickened much at the same time.

these pustules maturated. This child was afterwards inoculated with the small-pox without taking the disease."

The following is still more interesting: A young lady about twenty-two years of age, who was vaccinated when an infant, was attacked with the usual symptoms of *modified* small-pox. For the first two days the fever was severe; on the third an eruption appeared amounting to about one hundred pustules on the whole surface. They soon became vesicular, then horny or crystalline, and soon after disappeared. Lymph taken from one of the pustules in this young lady was inserted into the arm of a child similarly unprotected, and about two inches below the first puncture she was inoculated with the vaccine virus.

Two pustules formed, which advanced with about equal rapidity; the varioloid one being a little the largest; and encircled with the broadest areola. On the eighth day they both contained lymph, which soon become purulent. The child at this time had considerable fever, and kept her bed. The next day about a dozen tubercular eruptions appeared on her back and legs, none of which ever suppurated. Three days after they had almost wholly disappeared. This patient was afterwards vaccinated with no other effect than the production of a slight irritation, which lasted two or three days.

The young lady whose case is above mentioned, and from whom the lymph was taken to inocculate the last case, was, when she sickened with the varioloid, in a state of pregnancy. Six weeks after she was delivered of a dead male infant of five months, covered with a marked small-pox eruption. The pocks, which in number exceeded one hundred, were elevated, flat on the top, and from one-eighth to one-fourth of an inch in diameter, and uniformly, had a depression in the centre. "This fœtus was seen and examined by several medical men, who have unanimously pronounced it a case of pure small pox, apparently at the third or fourth day of the eruption."

The above facts and reasoning we trust are sufficient to convince any who from want of proper testimony, have heretofore been doubtful, or formed an erroneous opinion with regard to the nature of the varioloid. That it is small-pox modified by vaccination, there can be no doubt. And that it is more or less severe in proportion, as the previous vaccination has produced a lighter or fuller impression, on the system; and this varies in different cases from a kind of half way, to almost a complete effect.—The former are liable to *severe* illness from the effects of an after exposure to the small-pox, the latter to very mild effects, and when the vaccination produces its full im-

pression, the virus of small-pox can get no hold of the system.

I have mentioned *severe* cases of the varioloid. I would remark, that all the severity is confined to the stage preceding the eruption. We have never seen, nor heard of a fatal case neither in this city, nor elsewhere. European writers all coincide in the opinion that this form of disease rarely ever endangers life.

With regard to the question whether the varioloid may be communicated to the same subject more than once? We can say we have never seen nor heard of a case of this kind; although we do not deny but that such a case may, in some very rare instances, occur. For the small-pox is said, upon good authority, to have affected the same individual a *third* time. But such cases I believe never occur, except in epidemic seasons when atmospheric causes impress the system in a very peculiar manner. These seasons we shall have occasion to speak of more fully, under the head of kine-pox, which is next to be considered, as influencing the operation of vaccination upon the system. We should as often look for the occurrence of small-pox a *third*, as of the varioloid a *second* time in the same individual.

Kine Pox.

With a view to elucidate this subject in a plain and systematic manner, we will consider it under different heads, and

First. What is the nature of the kine-pox, and when was it first discovered?

Second. Former opinions considered, in relation to its origin.

Third. Our own views with regard to its origin and nature.

Then *secondly* consider the "nature and extent of its prophylactic power, and the causes of its failure to prevent the *small-pox*.

Dr. Jenner describes this disease in the cow as follows: It appears on the nipples of the cow in the form of irregular pustules. At their first appearance, they are commonly of a palish blue, or approaching to a livid, and are surrounded by an inflammation. These pustules unless a timely remedy be applied frequently degenerate into phagedenic ulcers, which prove extremely troublesome. The animal becomes indisposed, and the secretion of milk is much lessened. While the animal is in this stage of the disease it is most readily communicated to the milkers. Inflamed spots now begin to appear on different parts of their hands, and sometimes on the wrists, which run on to suppuration, first assuming the appearance of the small vesications produced by a burn. Most commonly

they appear about the joints of the fingers, and at their extremities; but whatever parts are affected, if the situation will admit, these superficial suppurations put on a circular form, with their edges more elevated than their centre, and of a colour distinctly approaching to a blue. Absorption takes place and tumours appear in each axilla." He proceeds to describe the febrile symptoms which ensue with the subsequent stages: which are always much more severe than the disease produced by inoculation in the arm, in consequence of the greater number of the pustules, and the great sensibility of the parts which they infect.

When one infected cow is introduced into a healthy herd, it generally passes from one to another, until all are affected, and the only mode of its communication, says Dr. Jenner, is by the hands of the milkers becoming besmeared with the matter from the teats or udder of one infected cow, and immediately by milking a healthy one, the matter is left upon her teats which reproduces the same disease. The cows, as well as the milkers, were observed to be liable to several attacks, but each subsequent one milder than the preceding.

At the time Dr. Jenner's attention was first drawn to this singular disease, it had been known among persons who had kept large dairy farms for many years. The persons upon whom he made the first trials of inoculation for the small-pox* had had the kine-pock from thirty to fifty years before.† Mr. Bryce states that it had been known for time immemorial, among those people occupied in the business of dairies. Dr. Jenner made his first experiments by inoculating the human subject with the cow-pock virus, near the close of the last century. His first publication on the subject entitled "An inquiry into the causes and effects of the *Variolæ Vaccinæ*, a disease discovered in some of the western counties of England, particularly Gloucestershire, and known by the name of the cow-pox," made its appearance in 1798. Previous to this, some eminent physicians had heard of it, and mentioned it, casually, in their writings. It is altogether useless here, to give a minute account of the events which attended the subsequent transferrence of this disease to the confidence of physicians and the public, as one capable of disarming that fatal enemy the small-pox of all its terrors, and of exterminating it almost entirely. I would just observe, that Dr. Jenner soon found associated with him a number of eminent gentlemen of the faculty who

* To test its prophylactic properties.

† His third case had the kine-pock fifty one years before, and he could not produce in him the small-pox.

were equally emulous with himself in the investigation of this subject. Among these was the highly respectable Dr. Pierson of London. Notwithstanding it met with a strenuous opposition from many of the faculty in England upon its first promulgation, and also in other countries where it was subsequently introduced, yet in a very few years kine-pock inoculation was practised in a great degree throughout the civilized world, under the fostering care of government, and for many years back, every nation and tribe on earth, most probably, have participated in its beneficial influence.

2. *What were the opinions, formerly, of the origin of the Kine-Pox?* Dr. Jenner believed that this disease never originates with the cow; but from a disease in the heel of the horse which farriers have termed *the grease.* He describes this disease to be "a swelling in the heel, accompanied, at its commencement, with small cracks or fissures, from which issues a limpid fluid possessing properties of a peculiar kind." This fluid when applied to the teats or udder of the cow under favourable circumstances was capable of exciting in that animal the kine-pox. And that this was the legitimate and only source of that disease. The manner of its application to produce this effect too, is all accidental: viz. through the hands of the ostler, says Dr. Jenner, the office of milking is performed indiscriminately by men and maid servants. "One of the former having been appointed to apply dressings to the heels of the horse affected with the *grease*, and not paying due attention to cleanliness, incautiously bears his part in milking the cows, with some particles of the infectious matter adhering to his fingers." And thus the disease is communicated to the cows, and then from the cows to the dairy maids, which spreads through the farm until most of the cattle and domestics feel its unpleasant consequences." Thus the Dr. thought the disease makes its progress from the heels of the horse to the nipple of the cow, and from thence to the human subject. His attention was at first directed to this source, for the origin of the cow-pox, from the vulgar opinion. It was the opinion of those who keep dairies in general, that the *grease* pretty generally appeared in horses, before the kine-pox in the cow upon the same farm, and Dr. Jenner, it seems, saw a sufficient number of facts to confirm him in this belief; but with regard to erroneousness this opinion will now be considered.

Experiments were soon set on foot by different practitioners to test the correctness of Dr. Jenner's theory of the origin of this new disease. Dr. Woodville, and Mr. Coleman, with great care and attention, inoculated cows with the recent mat-

ter of *grease* from the horse, but did not in any instance find it successful. And Dr. Peirson, about the same time, found the disease to make its appearance among the cows of a farm, where, not only no infected cow had been introduced, but where the milkers had not been liable to have their hands infected with the matter from the heels of horses; for there were none upon the farm. Dr. Woodville, also inoculated human subjects with the recent matter of *grease* from the heels of the horse, but could not by this means produce the cow-pox.

These experiments for a time upset Dr Jenner's theory, and physicians in general thought that the cow-pox was produced by "certain unknown changes in the constitution of the cow," owing probably to the season of the year, or to a change from a less to a more nutritious diet, as happens in the spring season."

The restless and inquiring spirit of genius however, did not cease its operations here. It was soon discovered that there were two varieties, or kinds of disease in the horse which might be confounded together and mistaken the one for the other.

*"In the medical Journal for November, 1800, is a letter from Sir Christopher Pegge, from which it appears that there is a disease affecting horses, which is considerably different from, but which, however, may have been confounded with, the *grease*. This disease is called by farriers *scratchy heel;* and Sir Christopher observes, on the authority of Mr. Lupton, surgeon at Thame, that the matter thence issuing, on being applied to several persons, had produced in them, a disease every way similar in appearance to the cow-pox; also, that this matter from the horse had produced the disease on the cow, and from her again it had been regularly communicated to several persons. At the time this letter was written, however, it does not appear that any of the persons thus infected had been subjected to inoculation for small-pox, so that it was merely the appearance of the affection that Sir Christopher and Mr. Lupton trusted to, in their observations."

It appears also, that Dr. Loy, physician at Aislaby, published an account of some experiments conducted by him, in order to ascertain the true origin of the cow-pox affection on the cow, in which he succeeded completely, after several failures, to produce in the cow, the cow-pox, from the matter obtained from the heel of the horse affected with one of the diseases above spoken of. After having failed in several attempts, by

* See Mr. Bryce, on the Cow-Pox, P. 17.

the application of grease matter to the cow, and also to the human subject, he remarks, "at length I had the good fortune to meet with *one horse*, from whose heels I procured the matter of grease in a more *limpid state* than that obtained from any of the others, at about the fourteenth day of the disease, and a week from the first appearance of the discharge."

The matter thus obtained, says Dr. Loy, produced the disease in five cows;—matter was taken from one of these cows and introduced into the arm of a child which had no protection, and a regular pustule was produced, which went through its regular stages. This child was soon afterward inoculated with the matter of small-pox, but without effect. At the same time these experiments were made, Dr. Loy introduced the matter of *grease* from the same horse into the arm of a child unprotected. On the third day a small degree of inflammation surrounded the wound. On the fourth day a small vesicle was discovered. On the seventh it was considerably increased in size, the inflammation extended, and a chilliness came on which was followed by increased heat, pain in the head, with frequent pulse and white tongue. These symptoms soon abated, and disappeared entirely on the ninth day. Matter taken from this child on the sixth day, was inserted into the arms of five other children. They all had a similar form of disease. After which they were all inoculated for the small-pox. But nothing appeared from the insertion of the variolous matter but a "very small degree of inflammation, which vanished on the fifth day."

These experiments appeared to confirm the accuracy of Dr. Jenner's investigations, and to excite a general belief that Dr. Jenner was correct in his first opinions with regard to the origin of the cow-pox; and here the subject appears to have rested; and the philosophic world have remained in darkness and wonder, at the apparent capriciousness and instability of some of nature's laws and operations.

If we suppose this to be a disease truly original in the horse where does the subject lead us?—to what conclusions must we finally come? Why, that the system of the horse is susceptible of a *spontaneous disease infectious* or *contagious* in its *nature*. And if we inquire is it communicable from one horse to another through the medium of the atmosphere? the answer is, no. Do horses communicate it from one to another by contact? no, unless by kicking at each other, and this would hardly be possible. How then is it communicated? there is no other way but by the *hands of man*, says Dr. Jenner. Men in the act of dressing the heels of the horse receive the matter upon their hands, and may carry it with effect, not only to another

horse previously in health, and infect him in the same way; but even he may carry it to the cow also, and impart a pustular disease to her nipples, attended with fever—here the disease would end among the cows however, if men and women would let them alone—but no, they must have milk, and butter and cheese. And by the process of milking, they carry the disease from one cow to another until all the herd become affected.* But what is most singular and perhaps wonderful of all is, that man takes this cow disease, and it proves a complete security against one of the most general, loathsome, and deadly diseases that ever infested the human family!!! Viewing the subject in this light, it certainly presents the operations of nature in the origin, propagation, and effects of the *cow-pox*, in a wonderful degree of instability of disorder and capriciousness. But we have no such views of the operation of nature's laws. She is always more connected, and leaves not so much to uncertainty and chance. The view which we are now about to take, with regard to the origin and nature of the cow-pox, we trust will fully establish this point. What then is the time, source and nature of the kine-pox? We will first state our position, and then advance arguments and facts in support of it.

We then declare our unqualified belief to be, that the cow-pox is the *variola* of the human subject, and that it was originally excited in the cow, in the form of the cow-pox, and in the horse in the form of *grease*, by the direct application of small-pox virus to these animals.

In considering this subject we will touch upon those points which appear to have a bearing upon the case.

1*st. The similarity of the two diseases.*—Dr. Jenner remarks upon the first trial he made by inoculating a boy with the kine-pock matter, "the appearance of the incision in their progress to a state of maturation, were much the same as when produced in a similar manner by variolous inoculation. The only difference which I perceived was, in the state of the limpid fluid arising from the action of the virus, which assumed rather a darker hue," and the "efflorescence around the pustule had rather more of an erysipelatous look."

Every practitioner must be able to see the similarity between the two diseases. The indented pustule in both—the regular progress of the disease from inoculation, by first a red papillæ, then becoming vesicular, then pustular; and febrile symptoms taking place about the same number of days after inoculation in both, and also the eruption which attends many cases of the

*See Dr. Jenner on *Variolæ* Vaccinæ p. 3d and 4th.

cow-pox. We may also perceive a great similarity between the two diseases in those mixed cases produced by a union of action upon the system of both the small and cow-pox at the same time, which bear an exact resemblance to that variety of the small-pox, called by some writers, the crystalline-pox or horn-pox.* Dr. Jenner himself saw such a striking resemblance between the two, that he thought it highly "probable that the *grease* in the horse might be the *source* of the small-pox.† An opinion has been quite recently advanced by Dr. Prela the pope's physician,‡ that vaccination was known in ancient times under the name of *Boa*. His hypothesis is founded upon some obscure passages in Pliny and Celsus. Upon this he has founded a notion that the small-pox has gradually developed itself, by the action of the cow-pox upon the constitution. But he, as well as Dr. Jenner, have placed the cart before the horse. The small-pox was the same loathsome and terrible disease in Arabia long before Rhazes wrote, which was in the ninth century, that it now is. There is no difference in the description of it as given by Rhazes and Avicenna, and the symptoms which it presented in New York in 1823–4. If then, it has undergone no change since it was first described by scientific men, which is at least eleven hundred years ago, it is not in the least degree probable that it changed from the mildness of the cow-pox, to the virulent, confluent small-pox, between the days of Celsus and the fatal epidemic small-pox at Alexandria in the beginning of the sixth century, a space of about five hundred years. Furthermore it has long been settled beyond all controversy, that it did not originate in Rome, or any of the adjacent countries, but in the *East*.

Have we any facts in proof that other animals besides mankind are susceptible of variolous contagion? Analogical circumstances go far to support any philosophical position, when they are drawn from nature's cases. During the time the small-pox committed such tremendous havoc with the human family for more than a century and a half previous to the discovery of vaccination, and more particularly after *inoculation* was introduced, the question would naturally be suggested to the minds of physicians, whether the inferior animals, having a similar absorbent and circulating system as men were susceptible of the operation of small-pox contagion? The truth of a phenomenon of this description is completely established by the observations of Mr. *Holwell* a gentleman of respectable rank and

* See Walker on the Small-Pox. † p. 3d.
‡ See Med. and Surg. Journal for Oct. 1826.

character, who resided long in India, and whose authority and opinion we have already appealed to, in support of the great antiquity of the small-pox in that country. He remarks, "In an 'epidemic season of the small-pox, *turkeys, chittygong fowls, 'Madras capons, and other poultry*, are carried off in great 'numbers, by the disease and have the symptoms usually ac-'companying every stage of this distemper. I had a favourite 'parrot, who died of it in the year 1774. In him, I had a fair 'opportunity of observing the regular progress of the disorder. 'He sickened, and had an ardent fever, full two days before the 'eruption, and died on the seventh day of the eruption. On open-'ing him, we found his throat and stomach, and whole channel 'of the first passages, lined as thick, with pustules, as the surface 'of his body, where, for the most part, they rose contiguous, 'but, in other parts they ran together."* Thus we have proof that the feathered tribe are liable to small-pox especially in certain "epidemic seasons" of the confluent small-pox. This circumstance of their susceptibility in *particular seasons*† should be particularly noticed, as it will aid us in explaining some points which otherwise may appear difficult and obscure.

If the feathered tribes are susceptible of variolous contagion, why not cows and horses? This is a very natural question; and in fact, if there be any one disease, which appears well fitted to pervade all animal creation, it is the small-pox. It operates differently in fowls from what it does upon the hu-

* Holwell's account of the manner &c. p. 25, Note.

† Many of the ancient physicians, among whom Sydenham stood conspicuous, advocated the doctrine of "peculiar constitutions of the air," arising in certain seasons which disposes the body to certain diseases. These peculiar seasons have appeared in every age of the world, the intervals having been longer or short at different periods. The year 1823-4 was a remarkable instance of this kind. There appeared a remarkable predisposition to eruptive diseases. The measles was very prevalent and uncommonly fatal. In Baltimore from the first of January, 1823, to the first of January, 1824, there occurred one hundred and fifty-six deaths from this disease. In Philadelphia during the same period, one hundred and seventy-five; and in New York one hundred and seventeen. Whereas during the preceding year only *one solitary* instance of death occurred from this disease in New York. And it was not confined to large cities, but spread throughout the country.

The small-pox also was epidemic, in all these places during that season. During these epidemic constitutions, the contagion of small-pox appears to be much more easily propagated, and it spreads more rapidly and extensively. And also during these peculiar "constitutions of air" it has been frequently of a more virulent and fatal character. It was during these "peculiar epidemic seasons" that Mr. Holwell observed domestic fowls and birds to become affected with the small-pox; and it was doubtless during such seasons of accelerated powers of its contagious properties, together with the increased susceptibility of the animal system, (for these seasons effect the inferior animals as well as man,) that the small-pox virus was imparted to cows and horses. And we gave good reason to suppose, that many of the failures to infect the cow by inoculation with small-pox, were in consequence of the experiments having been made in seasons which were the reverse of the above described.

man system. From numerous dissections which have been made of persons having died of small-pox, it appears that the eruption never assails the internal viscera or cavities; whereas in the case of Mr. Holwell's poor parrot, the œsophagus, stomach and the whole extent of the first passages, were lined as thick with pustules, as the external surface of the body. Thus its operation in the bird is different and much more aggravated than in the human system. Mr. Holwell says "they die in great numbers." It is not at all surprising then, that it should operate differently, in the system of quadrupeds and put on a much milder form even than in the human subject; and not communicable except by contact and absorption. A difference in the chylopoetic viscera will account for this. The feathered tribe are much more liable to fevers than the quadruped, particularly those of the graminivorous kind. Simplicity and uniformity of diet in the latter will account for this comparative exemption from fevers in them. Domestic fowls live not only on vegetable, but animal food also—in fact they are omnivorous. Being subjected to a very stimulating diet, is of itself sufficient to account for their greater liability to fevers. The natural rapidity of the circulation of the blood, is another circumstance in the system of birds, which predisposes them to fevers. Perhaps this rapidity of circulation renders them liable to more virulent and fatal attacks of small-pox than men.

That the matter of *cow-pox* and the *grease* are of the same nature, and operate in the same manner upon the human system, is now fully established. This would appear from the facts and experiments we have already detailed. The researches of the German physicians, however, have more fully established this point. Dr. de Carro of Vienna, states that he did not know but in that city, the *equine* virus had superceded the *vaccine.*

Thus, neither the horse, nor the cow, can justly claim priority to this disease, and those animals can reciprocally infect each other, provided some third animal lends his aid in propagating disease, and becomes the bearer of this poison. Man, appears always to have been this agent, and without his aid those diseases would have ceased in the quadruped even before the days of Jenner, or rather, would never have affected those animals at all. For there is no other rational way of accounting for its existence in the horse and cow but the supposition that is was originally imparted to them by the hands of

* Notice Historique sur le Docteur Jenner, &c. Nancy, 1824, Second edition by Lewis Valentin, M. D. Knight, &c. quoted by Pascalis.

men and women, while labouring under the variolous disease, or having been handling those who were thus affected; and with hands imbued with the variolous poison, have affected the cow in the process of milking, and the horse by dressing or rubbing down his "cracked legs." Mr. Bryce and others have mentioned two kinds of grease in the horse—one of which contains the infectious properties of imparting a pustular febrile disease to the cow, and also to the human subject, and the other has no power of infecting other animals. This last disease is natural to the horse, and merely a "cracking of the heel;" which is simply a local affection, unattended with fever. It was the matter from this affection which surgeons so often failed with, in their experiments. But this natural affection of the horse, by creating a raw surface, to which the hands of the ostler applied, while labouring under small-pox, (or hands besmeared with the matter from the pustule of the cow, or from the matter of *grease* from another horse) in the act of applying, dressing, or rubbing him down, the virus would readily be absorbed, and produce a disease affecting the whole system of the horse, attended with fever. It was from the proper stage of this disease when vesicles had formed, that Dr. Loyd succeeded so completely with both on the cow, and also the human subject, as we have already mentioned.* Cows are subject to fissures and cracks upon the nipples and udder from the suckling of their calves and from the process of milking. We can as readily account for the communicating of small-pox virus to this animal by means of milkers, as for the fact of their carrying the cow-pox virus from one cow to another, or the matter of grease from the horse to the cow. And it would be an interesting inquiry, how far a similar disease might be propagated among quadrupeds generally. In taking this view of the origin of the *grease* and the cow-pox we are supported by the experiments of Dr. Carpenter. It is said that this gentleman, some years ago, in Philadelphia, produced vaccine pustules by inoculating the cow with the small-pox. But as this attempt has failed by some other experimenters, we have thought that this interesting subject merited all the arguments of which it is susceptible, and hope that it may incite to further investigation.

The modifying effect of the system of the horse and cow upon the variolous poison, in being not only susceptible of a mild disease in themselves, but also of so tempering or assimilating

* It is from this disease that German physicians have taken the virus, which has been so much in use there as to render it doubtful whether it has not superceded the kine-pox.

the virus so as to possess the mild property of imparting an equally mild disease to man, connot be satisfactorily explained. This may be referred to the difference in the tissues of those animals when compared with the human system. That the small-pox virus is susceptible of a permanent alteration in its strength, power, or virulence, has been proved by the experiments of *Dr. William Maxwell of Dumfries*, which are so particularly interesting that we shall give them in full. "In 1801 the matter of small-pox was kept for a fortnight and inserted: the disease exhibited the common symptoms of variola. Matter taken from this subject was used at the end of a month, without any deviation from the usual symptoms. Inoculation was again repeated at the end of six weeks, as in the forgoing experiment, without any alteration in the result. In experiment fourth, matter was taken from the last subject and kept two months before it was inserted, when the patients, two in number, appeared to suffer less from fever; the pustules were earlier than usual; I thought they scabbed sooner, and had a narrower inflamed margin; in short, that the disease began to acquire a sensible degree of mildness. In experiment fifth, at the end of ten weeks, matter taken from one of the subjects in last experiment, was used in several children; in some of them it failed to produce infection; where it succeeded the disease appeared less active; the pustules began to scab on the sixth day. Experiment sixth was made with matter taken from one of the subjects of the preceding one; it was inserted at the end of three months; the eruption appeared on the fifth day with little or no fever; the scabs fell off sooner than in the last experiment, but in this there might have been some inaccuracy as I had it only from report. Experiment seventh was made at the end of fourteen months; two subjects only out of nine who were inoculated were infected; the eruption appearing at the end of the fourth or the beginning of the fifth day without fever or indisposition, the pustules were smaller, more prominent like the small end of an egg, and almost entirely free from an inflamed margin; the scab of a foliated structure, fell off about the eighth day, without leaving any pittings. Four sets of children were now inoculated with this matter applying it directly from the pustules; the disease in all respects resembled that in the last experiment, the children playing about in perfect health.

The author stated that he never heard that either the above children afterward took the small-pox, although it appeared in the village and no means were taken to keep them from it."

* See Amer. Med. Rec. Vol. 7th. p. 810.—*Analects.*

Here the doctor's experiments ceased giving way to vaccination which extended rapidly."

In these interesting experiments, is proved, that the virus of small-pox became susceptible of imparting a much milder disease by age; but with regard to the nature of this process, we are as much in the dark, and probably always shall be, as the modified virus produced by its passing through the system of quadrupeds.* The Jennerian discovery however has been an invaluable blessing to mankind, and that we may be able to participate more fully of its benefits we will proceed to the most interesting part of our inquiry, which is, to show

"*What are the causes of its failure to prevent the small pox?*"

It appears, from the seasons of epidemic small-pox and the varioloid, which have visited this city, that vaccination affords a complete protection against the small-pox. This appears to be the fact also in all cities and countries where similar epidemics have prevailed; and from which, accounts have been presented to the public. But it is a fact that there has been numerous failures. Some of these failures are complete; so that the persons have been subsequently affected with the small-pox unmodified in all its horrid character. While by far the greatest proportion have had that very mild disease which has been termed the varioloid. The first class (of complete failures) having been found most generally, from the strictest examination, to have had the operation performed in such a manner,—viz. by vaccinators, who are not physicians, by nurses, or at the public dispensary, where the child, perhaps, was never seen afterwards, by the physician, and also through the neglect, or carelessness of, even, the respectable physician, as to leave it quite uncertain whether they ever had the disease, and of course are not proper cases for our consideration here. The causes which interfere with the operation of the kine-pox virus upon the system, so as to give it but a *partial effect*, leaving still some space for the influence of the small-pox virus, present a subject peculiarly interesting, and which shall now claim our attention.

These failures are not exclusively of recent origin, although they have been brought under the more particular notice of physicians, from the very general extent which vaccination had acquired previous to the epidemic periods of small-pox, which have occurred during the last ten years; by the increased number of cases which have naturally occurred. But Jen-

* This change in the variolous poison appears to be permanent, as no alteration in its altered mild properties, by its successive operation through the human system for thirty years is perceptible.

ner was a witness to them in the early part of his inquiries, and not only endeavoured to account for their occurrence but to prescribe a remedy.

The causes which have been enumerated by Dr. Jenner and others, may be comprised under the following heads, as, inoculating with matter taken from an imperfect pustule—or from a child which is labouring under some other disease at the same time—from matter taken at an improper stage of the kine-pox—from the matter although good, being inserted, and the disease progresses while some other disorder or derangement exists in the system—from the place where, and manner of, inserting the virus—and breaking the vesicle in the early stage of its forming.—This last circumstance will receive particular attention from us, as being more important than what has generally been considered. With regard to all the other circumstances which have been enumerated, whether they merit the attention with which some have regarded them or not,* will be easily obviated in the mode we shall soon point out, as the most advantageous in conducting vaccination.

Besides the above, we will mention one other cause which interrupts the regular progress of the kine-pox upon the system, and one which has hitherto, escaped the notice of writers,—that is *peculiarity of temperament.* This circumstance, together with the laceration of the vesicle, will claim our particular attention. We have before remarked, that, in two of the most severe cases of the varioloid, which we have described under that head, matter was taken freely from the vesicles at the proper stage, for the purpose of vaccination. In the case of C. T., his mother stated that he was vaccinated by the late Dr. Post, and that he had so fine a pustule that "several physicians took matter from his arm." The mother of C. L., the young lady whose case we described as the most severe of any we have ever witnessed, stated that "seven physicians took matter from her arm." From these representations, we must infer, that the vesicle in both cases, was freely emptied, before it was fully formed. How to explain the operation of cause and effect, in accounting for the fact, that the poison, which is already in the system, should, by the laceration and discharge of the contents of the vesicle, be thereby partially

* Mr. Bryce has the following remark—"It does not appear to me, that any of those chronic eruptions to which children are liable, should prevent the inoculation of cow-pox, more especially if care be taken to preserve the vesicle entire, so that no new inoculation may take place. Some diseases, such as tinea capitis, sore ears, and sore eyes, I have known to become much milder, after the person had undergone the cow-pox affection."

arrested in its progress, and prevented from producing a *full impression*, is as inexplicable, as the reason why the same person cannot have the small-pox but once. But in the above cases, we could attribute the *partial* operation of vaccination to no other cause, (if we except *temperament*, which we shall next consider.) Both were vaccinated by skilful physicians, while in health—both had the disease to their satisfaction—and both had good *scars*. We could mention other instances, but the above are so striking, as to answer fully the purposes of illustrations.

If then, lacerating the vesicle, and taking freely of the lymph at the seventh day of the disease, will so arrest its regular progress, as to leave so much space for the operation of the poison of small-pox, as we presume was the fact in the two cases above described, may not a less copious discharge of the lymph from the vesicle, produce similar effects in a less degree; and of course, it argues an impropriety to puncture or lacerate the forming vesicle in any manner. Consequently, it would become necessary to use the dried scab for the purposes of vaccination, instead of using the lymph from the vesicle, as is the general custom. It also suggests the importance of particular directions and cautions in the treatment of the vaccinated subject, not to suffer the laceration of the vesicle, by the dress of the child; by its scratching, rubbing, picking, or the application of any other violence to the part.

This circumstance has hitherto been little noticed by writers or practitioners. Mr. Bryce was of the opinion that to lacerate the forming vesicle did tend to prevent a full impression upon the system. And with a view to obviate, as much as possible, any unfavourable effects of this kind, when we puncture the vesicle, for the purpose of obtaining matter for vaccination, advises the immediate application of some astringent to the punctured part, to arrest any further discharge; as a drop of Goulard's extract of lead. From our own observation in many cases, we infer that violence done to the forming vesicle, whether by accident, or design, for the purpose of obtaining matter to vaccinate others, has interfered in various degrees, with the regular course of the vaccine virus through the system, and by subsequent exposure to small-pox, has given rise to different grades of severity of the varioloid, being more or less mild, according to the deficiency of the impression produced by the kine-pox vaccination.

The other cause of the failure of the kine-pox to produce a *full impression*, which we proposed to consider, is *the peculiarity of temperament*. It is a fact, well known to every practi-

tioner of much observation, during the epidemics of small-pox, which have recently occured in this city, that in some families all the children have had the varioloid; and in others one half of the children only have had it, while the other half escape, although as fully exposed, as those who became affected. While in other families, we see all the children escape entirely, after such exposure to the variolous contagion as to render it certain, that they are entirely unsusceptible of its influence. Instead of looking for some external circumstance for accounting for these failures throughout a family—as *bad matter*, *improper mode* of insertion, &c. we would refer the cause to *temperament*. More especially as these children were vaccinated successively in different years, and by different practitioners. It could not be expected most certainly, that the causes, heretofore considered by writers and practitioners, as the true ones, and which might be avoided by a little attention, should be permitted to happen so generally in one family, while in other families of many children, they do not occur in one instance.

It is a very common circumstance to witness two distinct temperaments in the same family. This occurs where the father presents one temperament, and the mother another. Some of the children partake of the father's, others, of the mother's.

Which of the temperaments then, are the most liable to become but partially and imperfectly affected by the operation of the kine-pox upon the system? I am satisfied from my own observation that it is the *phlegmatic;* and the mixed temperaments, in which this predominates. Under this head we might rank all constitutions subject to an irregularity of the lymphatic or absorbing system, as all scrofulous constitutions, &c. With regard to the sluggish nature, slow or irregular action of the absorbent system, we know from daily observation. The particular anatomical structure which occasions this difference in temperament cannot be explained. But that there is a manifest peculiarity in the physiology of this temperament is evident from the operation of many diseases upon it. The venereal disease, which operates through the absorbent system, proves more formidable and obstinate in the phlegmatic, than in the sanguine or melancholic habits. It is in such constitutions that we meet with the most of those secondary or constitutional cases of this disorder. Here we have a poison which once received into the system, is not counteracted by the energies of the system, but continues its voyages until expelled by its proper antidote. From the irregularity of a free and general distribution of the lymphatic system however, the antidote (mercury) is not so freely conveyed through the system,

in the ordinary course of treatment, as to neutralize all the venereal poison.—Hence, from a retention of a part of this virus, results the constitutional disease. The vaccine virus is a poison of a milder grade;—one which operates quicker, and which requires no antidote; the powers of the system being sufficient for its correction. And how readily may this correction take place, before the poison has been generally diffused, from the slow and irregular action of the lymphatics. Hence, there remains room for a partial operation of the small-pox virus, giving rise to the *varioloid.**

In support of this view of the subject, we will give the two following cases in detail, and also refer to some others of a similar nature.

C. D. a girl aged 14 years, was vaccinated with lymph from a seventh day vesicle. I saw her on the seventh day of the vaccination. The vesicle was of the indented form—although more elevated and conical, than that which we observe in the best form of the pustule. The efflorescence was not exactly circular, but somewhat irregular; the vesicle was a little abraded. I took matter from it and introduced it into the other arm. On the sixth day from this second insertion, and the thirteenth from the first, I visited this girl, and on the arm of the second insertion, found a regular vesicle of the ordinary size.

The efflorescence around the pustule on the other arm had now pretty much subsided, and the matter was hardening into a crust. On the seventh day the vesicle from the second insertion had advanced as far as an eighth day pustule; and after this period its progress was a little accelerated, and a complete crust was formed one or two days earlier than usual. Matter was taken from this second insertion on the sixth day, and inserted into the arm below the elbow; an elevation and redness were preceptible on the second day from the insertion. On the sixth day from this third insertion, it had become com-

*The question might be asked, whether persons of this temperament do not possess naturally a diseased action of the glandular system; and resist the operation of the small-pox, or kine-pox, upon *that principle* advanced by Mr. Hunter that 'two diseases cannot exist in the system at the same time."

The glandular system seems, in some instances, to hold, as it were, a despotic sway over the cutaneous tissue, and indeed, the whole system. Hence the *pale* and *flaccid* state of the skin; and cutaneous affections never make their appearance. It is in persons of this temperament, that those remarkable instances occur of an entire unsusceptibility of either *small-pox or kine-pox* which continues through life. I know some instances in this city. There are others, again, who, resist these diseases at the early and middle periods of life, even after repeated exposures and endeavours to communicate them; and finally take them at an after period of life, when the lymphatic system has undergone some change.

pletely dried into a crust, which was the condition also of the pustule from the second insertion.

I would remark that this girl was in perfect health at the time of her vaccination, and had just arrived from the country where she was born and had always lived; and nothing perceptible in her case that could have interfered with the regular operation of the first insertion, but her constitution. She was of the *phlegmatic* habit.

2d. *Case.* A child in perfect health of the phlegmatic habit, was vaccinated with fresh lymph. On the third day a small red point was perceptible at the place of insertion—a vesicle formed very regular and progressed through the different stages, which were as regular and complete, apparently as ordinary cases. Some time afterward this child was again vaccinated with fresh lymph—it took effect, a vesicle formed which went through all the stages as regular and complete as a child who had never been vaccinated. Matter was taken from this vesicle and inserted into the arm of another child which had no protection by vaccination or inoculation, and produced the regular kine-pox pustule. This child was inoculated a third time with no other effect than a slight inflammation.

3d Case. A child aged six months was vaccinated in August last. It was of the sanguine temperament and when vaccinated had considerable irritation upon the surface from *prickly heat.* A beautiful vesicle formed and progressed regularly. On the seventh day it was as perfect a vesicle as I ever saw. It now struck me very forcibly, that the operation of the virus upon the system of the child was not at all impeded by the affection of the skin, which was very full of that peculiar eruption. I however, resolved to adopt the method recommended by Mr. Bryce, more fully to satisfy myself. I accordingly took lymph from the vesicle, which was on the left arm, and inserted it into the right arm. On the fourth day from this second insertion a small vesicle was perceptible. On the seventh day I perceived that it had dried into a crust, as completely as the one produced by the first insertion which was now fourteen days old.

Remarks.

The first and second cases here detailed, were in children of the phlegmatic constitution—the 3d was in a child of the sanguine temperament.—The two first were children in perfect health, but notwithstanding, the first inoculation in both, did not produce a full impression, which was evident from the subsequent insertions. And no cause could I assign for this result but their peculiarity of temperament. Had these chil-

dren been left to the effects of the first vaccination, they would doubtless have been subject to the varioloid disease, upon exposure to the virus of small-pox. The third case, although vaccinated when the surface of the body was covered with *prickly heat*, in the month of August, was fully impressed by the first inoculation, as the second insertion showed.

Method of conducting vaccination, to secure its full impression upon the system in all cases.

This may be effected by repeating the operation in the same person, until no other effect is produced than a slight inflammation. This would prove an almost* invariable test of a full impression. If a second vaccination should produce a pustule, although more rapid in its formation than the regular pustule, yet we infer that there was some space in the tissues of the system, which remained unaffected by the previous vaccination, and an exposure to the contagion of small-pox would have produced the varioloid. We have often observed that a second vaccination will produce a very considerable pustule, even much larger than the regular pustule of the first vaccination. These are always more rapid in their formation, and equally as much so, in their decline. But they frequently produce as much, and even more suffering to the child, than the regular pustule, in consequence of the more extensive inflammation they excite. Some experimenters have gone so far as to repeat the operation a fourth and even the fifth time, and the result of the experiment is, that the second vaccination produced a tubercle, or pustule, which lasted five or six days; a third vaccnat ion was followed by an inflammation of less extent, a fourth, still less; and the fifth produced no other effect than would have arisen from the punctures alone, if no virus had been inserted.

I have witnessed instances of revaccinations, attended with some degree of fever, when the pustule was at its height, which is about the fifth or sixth day, and lasts from six to twelve hours. Whether the occurrence of fever in case of a subsequent vaccination, affords the true and only criterion that a partial effect only, was produced by the first vaccination; and that any inflammation of the part at a subsequent vaccination *unattended* with fever, is an evidence that the first vaccination produced a full effect, though probably true, yet these positions cannot be demonstrated from the present state of our inquiries, upon this interesting subject. But when a subsequent vaccination produces no pustule or tubercle, and only an inflamma-

* Perhaps completely.

tion it should be regarded as a criterion that a full impression has been made by the previous operation of the kine-pox virus through the system; whether it has been by one, or more, previous vaccinations. But, although this affords the surest means of attaining the fullest effects of vaccination in all cases, yet it can never be carried into general practice. If we hold out to the public that a second, and perhaps a third vaccination is necessary to secure the child against the influence of the small-pox, we should soon destroy all confidence in this mild and safe prophylactic.

A method better adapted to general practice, and well calculated to secure the object, is the one recommended by Mr. Bryce. This gentleman has written an interesting work upon the subject of vaccination, in which he details a variety of experiments, with a view to ascertain what stage of the vesicle would afford the best advantage to make the second insertion. Those who may wish to become fully acquainted with his experiments we beg leave to refer to his work. We will state the opinion of that gentleman founded upon his experiments.

"By a second inoculation," says Mr. Bryce, "performed at a certain period in the progress of cow-pox, a clear and well defined mark of a constitutional affection may be obtained in every instance in which the ailment is effectual." This is to be ascertained by a second inoculation during the progress of the vesicle of the first vaccination. If, during the progress of the vesicle, (say at the sixth, seventh or eighth day,) first lymph be inserted into the other arm of the child, which should take effect and progress regularly through its different stages, it is an evidence that the first insertion would not have produced its full impression on the system. Whereas, if the second insertion, produced a vesicle of its own, which is smaller than the first, and follows the same stages, but with accelerated progress, so that the areola surrounding the two vesicles are formed at the same time; he inferred that it was a test that the influence of the first insertion had extended beyond the part operated upon, even to the place of the second insertion, and that a full impression was made upon the system. Mr. Bryce recommends that the two insertions be performed in as remote parts of the system as possible, and his practice was, in the two arms.

With regard to the most proper time for performing the second inoculation, so that on the one hand to afford the greatest contrast between the duration of the topical affections produced by the first and second inoculations; and, on the other hand, to obtain the topical affection of the second inoculation distinct-

ly marked with the peculiar character of cow-pox, he performed several experiments, from which he concluded that the most proper time for performing the second inoculation "is about the end of the fifth or beginning of the sixth day from the first inoculation." If it be delayed beyond this period the affection will be indistinct and of short duration; and if performed at an earlier period than the fifth day, the contrast between the progress of the two affections with regard to duration may not be so great as may be thought necessary.

A third insertion is recommended in cases where the second pursues an independent and regular course.

This mode proposed by Mr. Bryce is undoubtedly the best which has ever been recommended and seems well calculated, if universally adopted, of securing the fullest advantages of vaccination. But it is extremely doubtful whether it ever will become general. It is an additional labour, which practitioners are generally very willing to dispense with, and if the vesicle has a tolerably good appearance, they are apt readily to confide in its effects. Mothers, too, would not generally be willing to have their babes punished by this second operation, which though trifling in itself, frequently appears more or less formidable to them.

We would therefore propose a method, which would generally secure the fullest effect of the first insertion. With this view, we should always use good matter. By this I would be understood, matter selected from children in fine health, of rigid fibre, and sanguine temperament, and the *crust* of a vesicle which has been perfectly regular in all its stages.

This matter should be inserted at a time when the constitution is most vigorous, performing all its functions with the greatest regularity. An infant is generally more vigorous at three months old than at an earlier period. For several weeks after birth children are frequently subject to looseness of bowels, in red gum, jaundice and some other affections, which leave them (except in summer) by the time they are three months old, and after this, they generally have vigorous health, until the process of teething commences. About three or four months is the best age for vaccinating the child.

Season of the year is a circumstance which requires a more serious consideration, than what has hitherto been bestowed upon it. We have frequently found it extremely difficult, and in some instances, impossible, to communicate the virus during the heat of summer. My own child was an instance the last summer.

The finest specimens of the kine-pox pustule has been ob-

served during the last of autumn and beginning of winter. This is the season in this climate when man enjoys the fullest flow of health. Summer diseases in this city, are most numerous in August and September. After the equinox they begin to decline, and by November, the influence of summer, upon the human system, has passed away. The moderate cold of autumn has braced up the fibres of the system, and a greater degree of hilarity and vigour prevails at this time, than at any other season. The diseases of winter do not generally begin till after new-year, and its effects are most perceptible in February and March.

If then, we were to adopt the custom of performing all cases of vaccination, in the months of November and December, (except when the small-pox be actually among us) many important advantages would arise from the practice.

And 1st.—Physicians would have much less labour in performing this duty than in the ordinary way; the practice once begun, virus would soon be plenty, and of ready access to all. And with this ready supply, a vast number could be vaccinated in a very short time. As the custom now is to vaccinate every child at three or four weeks old, more or less, it frequently requires more labour to obtain virus sufficient to vaccinate a single child, than what would be required to visit different places and perform the operation on several.

2d. If this plan were adopted, from the multiplicity of cases the best selection of virus could be made with the greatest facility. Now physicians very frequently use matter of doubtful purity or of a less certain character, either from not being able to obtain better, or unwilling to undergo the labour required.

3d. This practice would take finely with the prejudices of all classes of the community. It is a very common occurrence to hear mothers and nurses make objections to the season of the year when proposals are made by the family physician, to vaccinate their children. If one season only were set apart for this operation, mothers would readily submit to any variation of the operation the physician might think necessary. And if a second insertion should be thought necessary in cases where the progress of the first was not satisfactory, it could now be done with great facility, both from the assent of the mother, and abundance of the virus.

And, 4th. The most important benefit which would result from such a practice, would be, to perform vaccination when the constitution is in its greatest vigour, least liable to be assailed by disease (especially in children,) and of course the

operation of the virus of kine-pox under these favourable circumstances would more surely pervade the whole system.

In all children of phlegmatic parents, and all persons of the phlegmatic habit, or who appear to participate in this temperament, should have a second insertion agreeable to the mode of Mr. Bryce, and if possible this second insertion should not present such appearances as to render it perfectly satisfactory that a full impression is made, a third insertion should be resorted to.*

If small-pox should appear, and there be danger of exposure so as to render it necessary to vaccinate during the warm season, Mr. Bryce's mode of a second insertion should be invariably practiced.

Matter should always be selected from children of robust habits and rigid fibre. Those of the sanguine habit are preferable. Virus in the hardened crusts, should be used for the purpose of vaccination. By the adoption of this mode we secure several important advantages. And first, we are not under the necessity of interfering at all with the progress of the vesicle, agreeable to an objection we have before given against this practice. Secondly, crusts may be kept a great length of time if put into small bottles secured with ground stoppers, so as to secure them as much as possible from the atmosphere. And thirdly, a single crust will vaccinate a great number of persons when prepared in a proper manner. This is, to remove the outer margin of the scab, as the virus is more concentrated in the centre. This should be broken down by the shoulder of a lancet or a small spatula, upon a piece of glass or wedgewoodware slab, and then dissolved by the addition of a drop or two of water. This taken upon the points of quills, will, when applied to the scarified surface, communicate as readily as the lymph from the vesicle. This was the method in which Mr. Bryce performed vaccination, and he gave it the preference, most emphatically. With a little care it is always

* A gentleman of the faculty in this city, of great experience, remarked to me a few days ago, that he had never been able, after repeated trials, to produce a regular formed pustule, in a child affected with the scald head. (Tinea Capitis.) And he had also experienced the same difficulty in children affected with the *scurfy head* (Pityriasis Capitis.)

These affections occur in children, mostly of the phlegmatic habit, and are always connected, somewhat, with a diseased state of the lymphatic system, which is evident from the fact that the glands about the head and neck in such cases, being somewhat enlarged. And, as there is a great sympathy between different parts of the glandular system, we can readily perceive that the *Mesenteric glands*, and other glands of the internal parts, participate in the affection. Hence the *pale, flabby, and some times sickly* condition of such children.

Such children require a repetition of the operation until we are able to produce only a slight inflammation from it.

an easy matter to have good crusts for the purpose of vaccination. But if we depend upon lymph from the vesicle the possession at all times of good virus is much more difficult, and leads the practitioner sometimes, to use that which "he would not if he could obtain better." By adopting this method, and adhering to the rules, we have taken the liberty to suggest, we have no doubt that vaccination would soon be placed upon that footing, as to be proof against the cavils of the malicious, and the prejudices of the ignorant, and the community would enjoy all those high advantages from this mild and simple prophylactic which it is capable of affording. To pretend that even under the method we propose, that the subjects of vaccination thus managed would not be liable to affection from small-pox virus in any instance, from peculiarity of circumstances, would be absurd and preposterous; for the small-pox has been known to affect the same individual, in a *confluent form*, twice. But no doubt the comparative number of *partial impressions*, from the *kine-pox*, would be so greatly reduced as to render the varioloid a rare occurrence.

From the facts and reasonings herein contained, we come to the following *conclusions.*

1st. That the small-pox is a disease of very ancient date, and had its origin in the *East.*

2nd. That the character of this terrible disease, in its unmodified state, has undergone no change, since its description by Rhazes, from time immemorial.

3d. That the successful mode of treating the small-pox, during the pustular stage, by puncturing the unripe pustules, as practised from the earliest times by the *Brachmins*, was never adopted by European practitioners.

4th. That the varioloid, is a modification of the small-pox, and excited in the system of those persons who have received but a *partial impression* from vaccination, by the influence of variolous poison.

5th. That those persons labouring under the varioloid will communicate the genuine, unmodified small-pox, to those who have no protection either by previous small-pox or by vaccination; and that it is capable of exciting the varioloid in persons who have received but a *partial* impression from vaccination.

6th. That the small pox virus is capable of affecting the inferior animals, especially during those *epidemic periods*, when *atmospheric causes* give a more virulent character to the disease and occasion a more rapid and general extension of its poison.

7th. That in some (at least) of the feathered tribes, it puts on a more severe and fatal character than in man, and that in quadrupeds a much milder form.

8th. That the *kine-pox* in the *cow*, and the *grease* in the *horse*, are diseases produced in these animals originally, by the operation of the variolous poison through their systems, and that both impart their respective diseases to the human subject, and that each proves *equally* effectual in protecting the system against the small-pox.

9th. That the modifying effect which the small-pox virus receives in passing through the system of these animals, appears to be permanent; as no change in its mild character is perceptible, after a successive operation through the human system for more than thirty years.

10th. That the kine-pox has proved a complete preventive of the small-pox, in the majority of cases, where vaccination has been performed by regular practitioners, even in the ordinary way of vaccinating in all seasons, and with lymph obtained by disturbing the regular progress of the vaccine vesicle, which may be regarded as a dangerous interference with vaccination.

11th. That those cases where small-pox has supervened to vaccination, have, in the great majority of cases, been a very mild disease, and seldom, if ever, death has occurred under its influence; and had we no means of lessening this comparative number of susceptible cases, it could afford not a shadow of an argument against the practice of vaccination.

12th. But we aver, that these cases can be diminished even to an insignificant number, by attending properly to their true causes, *two* of which, viz. the *laceration* of the *vesicle*, and the *phlegmatic habit*, have, heretofore, been entirely overlooked, therefore,

13th. The dry crusts should always be employed, for the purposes of vaccination, and great caution enjoined that the vesicle be not lacerated in its forming stage.

14th. The months of *November* and *December* present the finest season for vaccinating; and the summer months should be avoided.

15th. All children of phlegmatic parents, and all persons of the phlegmatic habit, particularly, should be *re*vaccinated, or have a *second insertion*, agreeable to the method proposed by Mr. Bryce, and *repeated*, until a full impression be made upon the system; and if it be necessary, at any time, to take lymph from the vesicle to vaccinate others, as when exposed to the small-pox, a second insertion should be made in the opposite arm.

MEDICAL PRIZE ESSAY.

This Essay on "Variola, Varioloid and Vaccination," arriving too late to be placed in the hands of the examiners appointed by the Medical society of New Jersey, to award the prize on this subject, for which it was intended, the author has presented it for the general premium of fifty dollars in books offered in a foregoing number of the Recorder, which has been awarded to him accordingly, as we deem all the information which can be obtained on so interesting a topic of the highest importance to the well being of society and mankind at large. Eds.

ART. III.—*An Essay on Variola, Varioloid and Vaccination.*

Opinionum commenta delet dies, naturæ judicia confirmat.—*Cicero.*

The topics it is proposed more particularly to investigate in this essay are "the nature and extent of the prophylactic power of the kine pox. The cause of its failing to prevent the small pox. The nature of the varioloid.—Is it a variety of variola; under what circumstances is it communicated; and may it be communicated to the same subject more than once?"

An extensive field of observation and research is here expanded to our view, and while we enter upon it with a degree of diffidence commensurate to its importance, we cannot refrain from observing that we think this a theme which is far from being exhausted, and one in which the patient investigator may find much that is highly worthy of his attention.

We do not, however, aspire to the rank of a discoverer or improver in this branch of medical science; to us be the humble office of arranging in a concise and systematic manner the most interesting facts and observations now extant relative to this subject so vitally important to the human family.

The history of a scourge so fatal as the small pox even in the imperfect state in which it has been transmitted to us, cannot fail to be interesting even to the ordinary reader. It is doubly so to the medical practitioner as it sheds considerable light on questions of great importance relative to this disease.

The learned differ very much in their sentiments respecting its antiquity, some averring that vestiges of the distemper may

be found in the writings of Hippocrates, Galen and other ancients; while the contrary is maintained by others with equal erudition. It is more than probable that the latter are correct, and that it was diffused over many countries from the east, along with the arms of Mahomet and the returning crusaders.

If the disease existed in the days of the Coan Sage its location was perhaps among nations farther eastward, as in Arabia, Persia, India and China; or else we should doubtless have received from so accurate an observer, some definite account of a disorder so distinctly marked as this. Indeed it is almost reduced to certainty that this disease was unknown to the Greeks and Romans during the prosperity of their respective empires. In succeeding ages the veil of intellectual obscurity was spread over the world; knowledge was despised, or cherished only in the cloister. The day spring of science had not yet aroused benighted Europe to accurate observation and useful inquiry; and few, or no authentic records were kept in relation to this and many other subjects of the highest importance to the human race. Yet there were favoured individuals thinly strewed along the course of ages who far in advance of the epoch in which they lived, struggled successfully to surmount the surrounding darkness, and their exalted minds received the first dawn of intellectual light as the summits of the Andes are illumined while the vale below is still wrapped in impenetrable gloom.

The first who gave a distinct and separate account of small pox, which he however confesses was compiled from the writings of the ancient Arabian physicians (now lost), was Rhazes who lived in Persia about the beginning of the 10th century.*

In endeavouring to account for the general liability of this disease to occur but once in the same individual, he supposed an innate contagion or connate fomes communicated by the mother to the fœtus in embryo, which after laying dormant for a longer or shorter time, is awakened into action and "depurates the blood just as fermentation converts the turbid juice of the grape into a fragrant and limpid wine." He is notwithstanding the first to record the fact that this disease may be contracted twice or even thrice. His plan of treatment was much more accordant with reason than his hypothesis; he recommends bleeding as a prophylactic throughout his work, and enjoins copious venesection in the beginning of the disorder even *ad deliquium* when there are evident signs of plethora as a "distension of the body and excessive tossing and tumbling, a pain in the

* See Van Swieten's Comment, Vol. xv, p. 4, 43, 142, and 145.

back, a redness in the skin and eyes, a very violent cephalalgia, a great and full pulse, a difficulty of breathing, a turbid red urine, and likewise a hot feel in the body, &c." If these signs are not very violent less blood should be drawn.

He even bled after the eruption had occured if the patient had sufficient strength to bear it, provided hoarseness, difficulty of breathing, with swelling and pain in the throat, attended the other symptoms of this disease.

Rhazes was so apprehensive of the effects of heat in small-pox that he did not hesitate to give water cooled with snow in large quantities and at short intervals, "Ita ut eo prematur, et frigiditatem ejus sentiat in intestinis suis, ægrotus."

With the same view he kept the chambers of his patients cool, and gave them acid serum of buttermilk or the juice of lemons. He endeavoured to promote the eruption by rubbing the body at the period of its appearance, and wrapping it up well, giving frequently, but in small quantity, cold water to sup, while he exposed the whole of the external surface, with the exception of the face, to the action of steam.

He applied cold water to the face and gave acid gargles with a view to repress the formation of pustules in the *mouth*, *throat*,* and eyes. Fires and baths, that have a tendency to heat the patient excessively, are condemned by this author. Such was the practice of Rhazes, and it had been well for subsequent ages if so rational a method had become more prevalent; but unfortunately, with few exceptions, his successors as well as predecessors, from misconceiving a point of practice recommended by Ahron of Alexandria, adopted the hot regimen, and caused the sacrifice of millions of the human species. This last mentioned writer, who lived in the seventh century, and whose works are quoted by Rhazes, states the prominent symptoms of small pox to be an inflammatory fever, accompanied with pain in the head, redness of the eyes, and the eruption commonly appearing on the third, though sometimes on the first day. He enjoins us, when this latter symptom occurs, to beware of refrigerants. Hence many of his successors, and among them Bactishra, who lived at the end of the next century, avoided antiphlogistic remedies, and declared "that things that are cold are mortal." So also Isaac the Israelite who is thought to have lived in the ninth century, did incalculable injury by propagating the error "to beware of cold reme-

* The occurrence of pustules in the throat, pharynx and tracheæ are noticed by the earlier modern authors, as may be seen in Van Swieten's Comment, Vol. xv. Drs. Mitchell and Bell have more recently pointed it out in their paper on variola, &c. which is accompanied with a coloured engraving illustrative of the fact, (See North Amer. Med. and Surg. Journal. No. 3.)

dies and to use those that are warm and moist." At the latter end of this century lived Serapion, whose mind appears to have been embued with sound and rational views. He states that nothing contributes more to the cure of this disease than venesection; and if infancy or timidity prevent bleeding, we should resort to cupping. He recommends a slender diet, and the avoidance of purgatives after the seventh day.

In the succeeding century, soon after the time of Rhazes, the practice began again to degenerate under the auspices of Avicenna, who advised sweating, warm covering, &c. "for the expulsion of morbid humours:" thus in every age has the false glare of hypothesis led its followers like an "ignis fatuus" into errors the most absurd, and fatal, not only to themselves but to mankind at large.

Avenzoar of Spain lived contemporaneously with the preceding writer; in his works is to be found a discourse on small pox, which is treated of as a disease of ordinary occurrence.

He advocated the practice of Isaac, which must have been productive of the most disastrous results.

Towards the conclusion of the eleventh century Constantinus Africanus, who practiced in Italy, committed a most outrageous plagiarism, by imposing the works of Isaac the Israelite upon the world as his own. Such characters as this are unworthy of remembrance, were it not right that their names should be handed down to the latest posterity with merited opprobrium.

The dark ages owe to Averrhoes, a Spanish Moor, who flourished about this period, one of the grossest errors that could possibly disgrace them. He taught that white is refrigerant, but that red colours are hot from the fiery particles supposed to abound in them; hence as the hot regimen generally obtained, red curtains and blankets were resorted to all over Europe, and the treatment was about this time blended with astrology, witchcraft, and magic.

The same absurd notions were entertained by Gilbert, the first writer on medicine in England, who lived at the close of the thirteenth century, and by Bernard de Gordonio and John of Gaddesden, both of whom wrote in the fourteenth century. The last mentioned author declares that the disease "does occasionally attack the same person twice."

Mercurialis, who lived about the middle of the sixteenth century, observes, that this disorder may attack an individual twice and even thrice. He attempted a slight reformation by recommending that the number of red blankets should be diminished; the heat of the chamber moderated, and the perni-

cious external applications, which were then very common, should be omitted.

The antiphlogistic method however was again revived about this period in the practice of Forestus, whom Van Swieten states "had received the healing art as an inheritance, in a manner, from his forefathers, and was looked upon as one of the ablest physicians of his time."

He bled his patients during the first stage of the disorder, in order to allay the heat of their bodies; but when the eruption appeared, he tried every method to prevent its being repelled by avoiding cold air and covering them with blankets, but not so as to add to the intensity of the fever.

In the latter part of the sixteenth or beginning of the seventeenth century, we again find the phlogistic regimen advised by Sennert, who was born at Brestlaw in 1572. Willis and Diembroeck both flourished in the seventeenth century. The former making a decided stand in favour of the antiphlogistic method advised bleeding, purging, vomiting and diaphoretics. He remarks that persons may have this disease even three times.

The latter believed that when the menses appeared before their usual period, during this disease, it proved a fatal symptom. He practised the phlogistic regimen, and strenuously advised his students not to bleed when the least signs of the approaching eruption began to show themselves. He witnessed many instances of persons having the small-pox, more than once.

We have now brought this brief sketch to the period when the illustrious Sydenham effected, in England, a complete reformation in the treatment of this dire disorder. He was ably seconded in Holland by Boerhaave, who actuated by an almost prophetic spirit predicted that a prophylactic remedy would some day be found against this contagion.*

He observes "the specific correction ought to be founded on the discovery of some remedy contrary to such contagious virus, which, taken into the body in so small a quantity, produces all the subsequent complaints, as so many effects.

"And that such a remedy may be discovered we are encouraged to hope by comparing together the accounts of those antidotes we are already acquainted with, and considering the nature of the disorder itself. And surely the great benefit such an antidote must be to mankind, is a sufficient motive to make us search for it."

Boerhaave lived to see a partial subjugation of this disease by inoculation, of which he observes, in the latter editions of his

* Van Swieten's Comment, Vol. xv, p. 129, 130.

Aphorisms, "the inoculative prophylaxis seems sufficiently safe and certain." He was, however, not aware that at a period not very far remote his prediction would be so completely fulfilled as to disarm this gorgon of its terrors by the discovery of vaccination, which has conferred immortality upon the name of JENNER.

SECTION 1st, OF VACCINATION.—We shall now enter on the more immediate objects of this essay, in which the nature and extent of the prophylactic power of the kine-pox first claims our attention.

The question of the identity of the vaccine with the variolous virus was early agitated, and Jenner himself appears to have been firmly of the opinion that they are the same, the former being a modification of the latter, resulting from its having passed through the systems of the horse* and cow.

The facts and experiments, however, which may be adduced in support of this doctrine are few in number, and not sufficiently authenticated to establish it incontestibly, while many cogent objections rest against it.

Mons. Grillon, a surgeon in the district of St. Pol de Leon asserts that he has established the identity of the vaccine and variolous fluids by inoculating during the prevalence of an epidemic small-pox owing to deficiency of vaccine lymph, with the matter of the varioloid pustule. Vaccine vesicles resulted, which again produced the vaccine vesicle in others, appearing to have a more energetic and prophylactic influence than any he had before observed.†

These experiments obtain additional support from those performed by Dr. Carpenter in Philadelphia some years ago, which consisted in producing vaccine pustules by inoculating the cow with small pox virus.‡

Still it may be objected to the experiments of Mons. Grillon that the variolus virus being the same as that of the varioloid pustule, as has been proved by the latter, having produced the most aggravated forms of the former disease in unprotected persons exposed to its influence, why has not the vaccine pustule frequently resulted from the inoculation for the small pox, when it was so extensively practiced before the introduction of vaccination.

* Some have denied this fact, which was early stated by Jenner, he having traced the vaccine disease to the *grease* in the horse: latter observations and experiments in Germany confirm this, as the vaccine pustule has been produced there by inoculating the human subject with matter taken directly from the horse.

† See Dendy on Cutaneous Diseases, p. 233.

‡ See the Recorder, No. 28, p. 810, where reference is made to them by the editor. We do not know where the experiments were originally published.

This objection however loses part of its weight when we reflect that the variolous virus may be very much ameliorated by passing it under peculiar circumstances successively through the systems of many individuals, as the experiments performed by Dr. William Maxwell, of Dumfries, on variolous inoculation tend to establish.

In 1801 these experiments were commenced; the matter of small pox was kept for a fortnight, and then inserted; the disease presented the ordinary symptoms of variola. At the end of a month, matter taken from the subject of this experiment was used to inoculate another individual without any unusual deviation presenting itself.

Virus taken from this last subject was employed in the same way at the end of six weeks; no sensible alteration resulted. Matter was now taken from this case and kept two months before insertion, and two patients on whom it was subsequently employed appeared to suffer less from fever; the pustules occured earlier, scabbed sooner, and had a narrower inflamed margin. Pus taken from one of the last mentioned individuals and inserted at the end of ten weeks into the arms of several children, failed in some to produce an effect, in others a milder disease was the result, the pustules beginning to scab on the sixth day. Virus from one of the preceding was inserted at the end of three months; the eruption appeared on the fifth day, with little if any fever; the scabs fell off sooner than in the last experiment. After the lapse of fourteen months some of the same virus was used to inoculate nine persons, only two of whom received the disease and the eruption appeared at the end of the fourth or beginning of the fifth day, without indisposition or fever; the pustules were smaller, more prominent and were pointed, resembling the small end of an egg, being entirely free from an inflamed margin. The scabs fell off about the eighth day, leaving no pittings to designate their former site. Four sets of children were now inoculated with the matter directly from these pustules, and the disease which resulted, in every respect resembled that in the foregoing experiment, the subjects of it playing about free from indisposition.

It does not appear that any of the individuals on whom these experiments were performed have been subsequently infected with either variola or *varicella*, although both have been in the village of New-Abbey, (the principal theatre of these investigations), and no other precautionary means taken to secure them*

* See Edinburg Med. and Surg. Jour. for July, 1824, or the Recorder, No. 28, page 810.

These experiments show that a considerable abatement of the virulence of the virus of small pox, may be produced, resulting in a disease scarcely more malignant than the vaccine; and it is not impossible that it was in a way somewhat analogous that Mons. Grillon produced what he conceived to be the vaccine vesicle.

Still it must be conceded that we are, at present, unable to furnish any probable solution to the following perplexing queries.

If the vaccine and variolous fluids are the same in essence why does not the former produce the small pox, in all its characteristic features, when again translated to the human body; for although it may be modified for the time being by the systems of the cow and horse, yet unless its nature is essentially changed (in which case it becomes a virus, *sui generis*) there is no obvious reason why it should not regain its original activity, at least to the extent of the inoculated small pox.

It may further be asked why if they are identical, does not the vaccine admit of being communicated in any other way than by contact or inoculation,* while the contagion of small pox diffuses itself with destructive facility independently of these modes.† If it be admitted that it is permanently modified by the systems of the cow and horse so as to have peculiar properties of its own though so nearly allied to the contagion of small pox as to supercede its influence on the human constitution, would it not be quite as philosphical to conclude that it originated in the systems of those animals as a distinct disease, but has been endowed by a benignant Providence with that inestimable property. Lastly, if we suppose the vaccine to

* A widow, whose daughter was at the time ill of small-pox, presented herself to the reporter, and stated that she had sat for a few minutes beside a child that had been previously vaccinated, the pustule having attained the seventh day. On the following day she had rigors, nausea, lassitude, and pain of the back and head, which she imputed to fatigue, she having had small-pox in her childhood. Three days previous to the report the fever abated, and a small pimple appeared on the left fore-arm and two others on the legs, which present the aspect of the vaccine vesicle, having the central depression and usual surrounding areola at the time of the report. The second case occurred in a child of the foregoing, three years old, who was attacked on the eleventh of June with chilliness and pains in the head and bowels, next day was feverish and vomited. The day following but one, the symptoms were alleviated by an emetic and cathartic. On the fifth day (fifteenth) a vaccine vesicle made its appearance, having the central depression, circular filled with clear lymph and slight surrounding erythema. It was first noticed by the mother on the twelfth. On examination another vesicle was found on the thigh in a less degree of advancement, and a third on the cheek; skin now cool and head easy.

On the sixteenth the fever again came on and several pimples appeared, presenting the characters of regular small-pox, but rather as modified by vaccination. In these cases the appearances evidently resulted from the contagion of small-pox then in the house. See Lond. Med. and Phys. Jour. for December, 1827.

† See Edinburgh Med. and Surg. Journal for July, 1826.

have been the original disease, and to have existed from the earliest recorded times (as Dr. Prela physician to the pope has endeavoured to prove being known, according to him, to Pliny and Celsus, under the name of Boa*), and the variola a degeneration of this disease produced by the action of the human system upon its virus through a succession of ages. Why does not the vaccine disease prevail among the cow kine simultaneously with the epidemic occurrence of small-pox in the human species?

Indeed if this is the case the danger stares us in the face that we are ultimately still perpetuating the variola instead of eradicating it by the vaccine, and that in process of time without a recurrence to the original source we shall be in as bad a predicament as we were before its discovery. Perhaps a more extensive series of experiments performed during the epidemic prevalence of small-pox in hospitals, which offer the greatest facilities, for the purpose, might serve more fully to elucidate this subject. We shall now proceed to consider the extent of the prophylactic influence of the vaccine and the probable causes of its failure to prevent the small pox.

On the threshold of this important and interesting investigation, which involves discussions of no ordinary intricacy, and in pursuing which we may have to anticipate much that would be more properly in place when we come to speak of the varioloid, we beg leave to state our unequivocal belief, that when properly performed the vaccine inoculation is a complete and perfect preventive in most individuals during life, of the impression of variolous contagion; and that the principal cause of its failure in the instances which have occurred is to be refered to the imperfect and negligent manner in which it has been and still continues to be performed.

These sentiments we find echoed by nearly the unanimous voice of the profession both in this country and in Europe.

How far we shall find them supported by the documents and other evidence we shall be enabled to adduce, will appear in the sequel. Dr. Thomas D. Mitchell, late of Philadelphia, in an interesting paper entitled "A candid Inquiry into the present state of vaccination,"† presents a summary of the evidence in relation to this subject of which we shall give an abstract.

He observes, "It becomes therefore a most serious inquiry, whether the present state of vaccination be such as to justify distrust in its efficacy and to warrant the revival of inoculation

* See Edinburgh Med. and Surg. Journal, for July 1826.
† See Medical Recorder, No. 18, p. 257.

with variolous virus." In order properly to investigate this interesting question he premises the following propositions:

1st. Are those who have been successfully vaccinated, liable to attacks of small-pox, and do such prove fatal?

2nd. Does the evidence, on the whole, warrant our continued confidence in vaccination as the only preventive of the mortality of small-pox?

That vaccinated persons are occasionally liable to attacks of small-pox, will not admit of dispute, as will appear from the following respectable testimony.

Dr. Duncan, when reviewing Dr. Thompson on varioloid says, that the disease in vaccinated persons was undoubtedly small-pox; he thinks vaccination merely modified the disease, rendering it milder.*

The small-pox which prevailed near Edinburgh appeared indiscriminately to attack those who had been vaccinated, those who had previously had small-pox, and those who had passed through neither.†

Dr Jenner says, the constitution loses its susceptibility for small-pox in proportion to the degree of perfection in the vaccine pustule during its progress, and that the small-pox taken subsequently is modified accordingly.‡

In Sweden, Switzerland, Geneva and Montpelier the varioloid eruption has occurred in vaccinated persons, where it was considered a mild small-pox.§

In general, says Dr. Duncan, we believe it will be found, that a small portion only of vaccinated persons exposed to infection took the disease, while few that were unprotected escaped.‖

Those who had the modified small-pox, after vaccination in 1817 had been previously exposed without contracting the disease. Hence the inferrence that the disease of that year was peculiarly virulent**

In the same Journal there is other evidence to this purport, and indeed every practitioner almost, who has practiced during the epidemic prevalence of small-pox since the introduction of vaccination can attest the same thing.

We shall now adduce evidence to prove that the matter taken from patients having the varioloid after vaccination produced small-pox in persons that were unprotected; of this we shall have occasion to speak when we come to treat of the varioloid which whether it occurs in the vaccinated or inoculat-

* Edinburgh Med. and Surg. Journal, No. 63, p. 232. † Ibid. No. 63, p 232.
‡ Ibid. No. 68, p. 476–7. § Ibid. No. 63, p. 120. ‖ Ibid. No. 63, p. 232.
** Ibid. No. 63, p. 240.

ed is to be considered as a milder form of small-pox, but approximating in various degrees of intensity to the small-pox in unprotected persons.

The remaining part of the proposition relating to the occurrence of small-pox in those who have been vaccinated. "Do such attacks prove fatal?" has a particular bearing on the extent of the prophylactic power of the vaccine, and we shall therefore make free use of the evidence adduced in support of its efficacy in this respect.

In the report of the college of physicians of London for 1807 a writer is referred to, who states that in almost every case where small-pox has succeeded vaccination it has been mild and of short duration; vaccination seems to deprive small-pox of its malignity in such cases. Dr. Akerly relates a case of this nature which terminated without suppuration or scab.*

Dr. Thomas, in his Practice of physic, observes, "persons who have been vaccinated and passed through the cow-pox with all the usual accompanying symptoms, and who have afterwards taken the small-pox, of which a few instances may have happened, have generally imperfect pustules which die away in a few days." Mr. Bryce observes the disease was attended with little or no eruptive fever; the eruptions were not numerous; few pimples suppurated, and they quickly dried away. While hundreds died around from the natural small-pox, none who had been previously vaccinated, were seriously ill or in danger.†

The varioloid disease or modified small-pox, did not pursue the usual course. It was not attended with secondary fever, and the eruption seldom had the smell of small pox.‡

Of the many cases of modified small-pox in vaccinated persons that occurred in Montpelier, Sweden, Switzerland, and Geneva, not one is said to have proved fatal.§

In the review of Thompson on varioloid a long list is given of physicians who saw this modification of disease in vaccinated persons, none of whom reports a fatal case.‖

According to the report of the English vaccine establishment not a single well attested case has been known of fatal small-pox, after vaccination of many hundred thousand persons, and when modified small-pox has occurred, it has been generally a mild disease.

Modified small-pox prevailed at Lanark at the time it existed in Edinburgh. Five fatal cases occurred, though not one of these had been vaccinated.**

* New York Med. Repos. Vol. XIV. p. 35. † Edinburgh Med. and Surg. Journal, No. 56, p. 467. ‡ Ibid. No. 56, p. 519. § Ibid. No. 63, p. 230. ‖ Ibid. No. 63, p. 230. ** Edinburgh Med. and Surg. Journal, No. 57, p. 657.

There were ten thousand vaccinated persons in Norwich at the time of the prevalence of the epidemic. Five hundred and thirty died of small-pox, only two of whom were vaccinated.*

Small pox prevailed in the kingdom of Wertemberg in 1814–15–16 and 17, and affected the vaccinated as in Scotland and elsewhere. From official returns to government it appears that while tens of thousands of vaccinated individuals escaped, only two died of small-pox who were registered as properly vaccinated.†

Facts of similar import were observed in Rotterdam in 1817–18. Of sixteen cases of natural small-pox at Cupar in Fife, six died. While out of fifty-four cases of small-pox occurring in vaccinated persons, only one and that a doubtful case died.‡

The number of deaths from small-pox in a given number of vaccinated persons is not near so great as in an equal number of persons inoculated for small-pox, according to the report of the London college of physicians.

In the very interesting and valuable report of the committee of the Philadelphia medical society appointed to collect facts in relation to the recent occurrence of small-pox in this city we find the evidence of a large majority of the practitioners here, supports that which has already been adduced; and among those who have not thought proper to state their experience to the committee we believe there is not a dissenting voice.

The committee state that our present population amounts to about one hundred and forty thousand souls, and they infer from the most careful inquiry that of these, eighty thousand persons have been vaccinated. One hundred died in 1827, of variola. Ten persons are said from the documents laid before the society, to have died with small-pox after vaccination, and that nine perished in the same way after previous small pox. From such evidence as they could obtain, about one thousand cases of the disease had occurred both under its genuine and mitigated aspect. Of these two hundred and thirty-five cases are supposed from the estimate made by the board of health, to have been genuine variola. This leaves a balance of seven hundred and sixty-five cases of modified small-pox after variola and vaccination. In their concluding remarks the committee observes that these documents show that the varioloid disease has attacked both variolated and vaccinated persons. Of the whole number seven hundred and sixty-five variolated cases, far the largest proportion occurred in vaccinated persons. This is explained very satisfactorily by the fact that there are

* Edinburgh Med. and Surg. Journal, No. 66, p. 127. † Ibid. p. 128.
‡ London Med. and Surg. Trans. Vol. X. p. 329–330.

eighty thousand persons who have been vaccinated in this city, while there are not more than twenty thousand and perhaps even less who have been variolated. Hence supposing an equal susceptibility we ought to find four cases of varioloid after vaccination to one subsequent to variola. Of the ten deaths that have been mentioned as taking place after vaccination the committee, after an impartial consideration of the circumstances stated by the reporters, conclude that but one is to be deemed legitimate. "How triumphantly does this speak in favour of this prophylactic, only one death from small pox after vaccination has occurred in Philadelphia during the year 1827 among eighty thousand vaccinated persons, and during the prevalence of a most malignant and mortal small-pox, while several individuals have lost their lives from small-pox, after they had already gone once through the disease."*

The second proposition "does the evidence, on the whole, warrant our continued confidence in vaccination as the only preventive of the ravages of small-pox," comes now to be considered. It may be proper first to show that the proportion of vaccinated persons who are subsequently attacked with variola in any form is very small. In proof of which the following authorities are adduced.

One of the foreign vaccine establishments reports that out of two million six hundred and seventy-one thousand six hundred and sixty-two persons who had been properly vaccinated, only seven had the small-pox afterwards.†

In the same journal it is stated that one hundred thousand persons were vaccinated in India by M. Dubois and others not one of whom was afterwards affected with small-pox.‡

In the London foundling hospital during nineteen years, only two cases having any resemblance to small pox occurred in the patients vaccinated there.§

In the Royal military asylum where a great number of soldiers' children are raised not a case of small pox has occurred after vaccination.‖

Out of forty-six thousand six hundred and sixty-two persons who were vaccinated at the London small-pox hospital, one only had the small pox in any form.¶

Up to the year 1820 more than sixty thousand persons have been vaccinated by the English vaccine establishment, only five of whom since had small-pox.**

* See Medical Recorder, No. 42, p. 329, et seq.
† Eclectic Repert. Vol. VII, p. 529.
‡ Ibid. Vol. IX, p. 130
§ Journal of For. Med. Science and Lit. Vol. I, p. 122.
‖ Ibid. 122.
¶ Ibid. Vol. I. p. 122.
** Ibid. 122.

From a register kept by Mr. Cross of six hundred and three individuals, during the prevalence of small-pox at Norwich of whom ninety-one had been previously vaccinated; of these last only three were attacked and that with a mild form of the disease.*

It is the opinion of this gentleman that of vaccinated persons not more than one in twenty are in the least affected by the most intimate exposure to the contagion of small-pox, and that less than one in fifty have even the modified form of the disease.

Dr. Robinson gives an account of the appearance of small-pox at a charity school in Dublin, from which it appears, that two girls who had been vaccinated were attacked with the modified small-pox. Two who were unprotected had the genuine small-pox, in one of whom it was confluent, and that the remainder, thirty in number, who had been vaccinated were for the sake of the experiment inoculated with the matter from the small-pox patient and all escaped the influence of the contagion.†

The evidence contained in Mr. Casper's work on the influence of vaccination in Prussia establishes incontestably that not only infantile mortality, but even the general mortality, has been lessened since its introduction there. The following are the results of Mr. Casper's investigations in this branch of medical statistics, a science which is becoming every day of more importance as it may be referred to as a safe guide in all questions of a doubtful and disputed character. 1st. Small-pox formerly destroyed from one-twelfth to one-tenth of the population. 2nd. At present not more than one in one hundred and sixteen dies from the same cause. 3d. The diseases of infants have become more common because now more infants survive than formerly. 4th. Before the introduction of vaccination fifty-one children in a hundred died; now only forty-three perish out of the same number. 5th. Formerly the general estimate gave one death in every twenty-eight inhabitants, now there is but one in every thirty-four; this proves a manifest diminution in the general mortality effected by vaccination. In our historical details we mentioned many authors who had seen small-pox occur more than once in the same individual. Other authorities are here adduced to establish the highly important fact that small-pox is not an invariable prophylactic against itself.

* Edinburgh Med. and Surg. Journal, No. 66, p. 118.
† Trans. College of Physicians, Dublin, Vol. III.

There are more instances on record of persons suffering severely and even fatally from a repetition of small-pox than from small-pox after perfect vaccination.*

A person who acted as nurse twelve years to an establishment for inoculated persons near Norwich believed himself exempt from the disease by a previous attack of small-pox, at the end of that time he contracted small-pox and died.†

Mr. Tyre declares from his observations and experience that whatever has been said of the insufficiency of the vaccine security, is equally true of the variolous. He mentions two cases of genuine small-pox occurring twice.‡

The report of the English national vaccine establishment for 1818–19 states that in the last year twenty-seven cases of secondary small-pox had been reported to them.§

Mr. Hennen records similar cases, and notices fifty authorities to prove the fact. Sir Gilbert Blane records two cases, and Dr. Akerly one of the same purport.

With the foregoing overwhelming evidence before us how can we hesitate for a moment to pronounce the protection of the vaccine when properly performed as complete. That there are exceptions must be allowed, but they arise from idiosyncracy, and are not perhaps more numerous than those which occur to the general law that the system is susceptible to the impression of small-pox virus but once in the same individual. But such unfortunately has been the want of attention to this important subject that the salutary cautions of Jenner have been overlooked or entirely disregarded, and hence apparent exceptions have been multiplied.

When we reflect, however, on the immense number of the vaccinated who enjoy a perfect immunity from small-pox, and compare them with the small number of even such exceptions as we have stated, we have reason to have our faith strengthened rather than diminished. Let us then rally in a firm phalanx around the standard which Jenner has reared and defend it from the assaults of ignorance, prejudice, and sordid avarice; but above all let us shield it from the dangerous enemies to be found in that profession to whom mankind look in their hour of tribulation, to ward from them, by the aid of a benign Providence, the wrath of the destroying angel.

Let us by canvassing the subject calmly and dispassionately and by appealing to well authenticated facts endeavour to fix the wavering and subdue the opposition of those, who, if they

* Edinburgh Med. and Surg. Journal, No. 56, p. 467. † Ibid. No. 66, p. 119.
‡ New York Med. Rep. Vol. VIII, p. 342.
§ Edinburgh Med. and Surg. Journal, No. 62, p. 242.

should succeed in their attempts to deprive vaccination for a time of public confidence, will it is true, rescue their names from oblivion, but only to obtain an immortality less enviable than his who destroyed the Ephesian temple of Diana.

Let us now contrast vaccination with inoculation for the small-pox and with that disease contracted in the natural way, and we shall have additional reason for advocating the former.

Indeed inoculation for the small-pox though it rendered the disease more mild in those who underwent the operation, and if it could have been properly enforced might have been productive of great advantages to mankind, "has by keeping up constant supplies of the contagion, spread it continually among the uninoculated and occasioned a greater mortality than if inoculation was neglected."*

We cannot withhold our belief that this would be found to be the case if every individual on earth were inoculated and an estimate made of the number of deaths which resulted allowing one in three hundred, to prove fatal, and a comparison instituted between this and the ravages of the small-pox, unchecked by any other means than shunning the contagion.

In the latter case it would be limited in its extent, and though its fatality would be in a ratio vastly greater, yet the aggregate loss of human life would be less. This can however only be proved by a reference to the data furnished by medical statistics to which we at present have not access.

If it be found to result as we have represented it will argue infinitely in favour of vaccination, and will show that the world had previously to its discovery, cherished a fatal delusion; had nourished in their bosoms a serpent that had stung them.†

The following facts and observations speak loudly in favour of the superior prophylactic power of vaccination.

In Shottisham, England, for sixteen years, during which time vaccination has been almost universally practised no case of small-pox has occurred.‡

In Denmark where vaccination is enforced by law small-pox has not appeared for eight years.§

Vaccination has been uniformly practiced in the circle of Bezat in Bavaria containing half a million of inhabitants from the year 1807, since which period, according to Dr. Krans, small pox has not occurred there.**

* See the Quarterly Review for 1827.

† Dr. Thomas states in his Practice that the London bills of mortality clearly prove that small-pox has increased in England since the introduction of inoculation in the proportion of nineteen in every hundred.

‡ Journal For. Med. Science and Lit. Vol. I, p. 121. § Ibid. ** Ibid.

This practice fell into disuse in London in 1817 so much in consequence of small-pox affecting the vaccinated that one thousand and fifty-one died of small-pox in that city. Good sense triumphed finally over ignorance and prejudice, and in 1818 vaccination being had recourse to, only four hundred and twenty one died from this disease.*

As an evidence of the efficacy of vaccination in Norwich the reviewer of Mr. Cross supposes inoculation to have been practiced in the case of the ten thousand vaccinated persons; from the usual data one in three hundred would have died; making in all thirty-three deaths whereas there were but two.†

In Copenhagen alone from 1788 to 1800, five thousand five hundred persons died of small-pox. After vaccination was introduced from 1802 to 1818, only one hundred and fifty-eight died of that disease in the whole Danish empire.‡

From 1804 to 1818 it is estimated that twenty-three thousand one hundred and thirty-four lives have been saved by vaccination in London compared with inoculation for fifteen years previous to that period.§

Formerly the annual mortality from small-pox in London was two thousand; in 1812 the deaths were only seven hundred and fifty, though there had been an increase of the population within two years amounting to one hundred and thirty-three thousand one hundred and twenty-nine; such was the benign influence of vaccination.‖

One in every three hundred dies of inoculated small-pox, while less than one failure in a thousand occurs after vaccination.¶

In Prussia formerly forty thousand died annually of the small-pox. In 1817 the deaths from this cause were not three thousand, although large accessions of territory had been made. Vaccination is here enforced by the law of the land.**

* London Med and Surg. Trans. Vol. X, p. 332. † Ibid. p. 131.
‡ Edinburgh Med. and Surg. Journal. No. 66, p. 127. § Ibid. p. 132
It appears to have escaped most reasoners on this subject that the estimate of one death in three hundred from inoculation is the result of the primary variolation, (or from the operation) and that in drawing a fair comparison this should be added to the number of deaths in every hundred which result from the secondary or modified variola which occurs after inoculation, and the aggregate taken and compared with the deaths from modified small-pox after vaccination: this would very much diminish the ratio of the latter. Death from the vaccine operation is a very rare occurrence though such instances have occurred.
‖ New York Med. Repos. Vol. I, p. 209.
¶ Edingburgh Med. and Surg. Journal, No. 56, p. 657.
** Ibid. p. 132.

In Bavaria during the year 1800 no less than one thousand six hundred and nine persons died of small-pox. From 1809 to 1818 vaccination being generally performed on almost every child not one died of variola.*

When inoculation was in full operation in London the deaths from small-pox were ninety-four in a thousand.†

Inoculation keeps up a constant source of contagion, and increases the number of deaths from the natural disease.‡

Let us now contrast the previously stated facts respecting the protection afforded by the vaccine with what is on record of the destructive effects of small-pox unmitigated by any prophylactic means.

Small-pox has destroyed one hundred persons for one that has perished by the plague.§

Two-thirds of the persons who applied at the Indigent Blind Hospital in London for relief, had lost their sight by small-pox.‖

It is estimated by Van Swieten that the ratio of mortality from natural small-pox is about one in fifty; or seven out of three hundred and fifty-five persons, from whom his calculation is made, which is much less than is estimated by other writers.¶

It is observed by this highly valued author that the small-pox has so bad a character among the Chinese, who inoculate by putting the dry scabs up the nostrils, that in reckoning the number of their children they omit those who have not had the disease.** In the small-pox which prevailed in Milan only three out of four survived.

We shall now inquire into the causes why the vaccine has failed to prevent the small-pox. It is asserted by the enemies of vaccination, and perhaps too hastily and without duly examining the subject admitted by some of its friends, that the protecting influence of this prophylaxis does not extend beyond a few years, or in other words that it is not permanent and that a renewed susceptibility may be required for the impression of the variolous contagion. Professor Hufeland was induced to adopt this opinion from observing that the varioloid had as yet almost exclusively attacked adult subjects, or such as had been vaccinated ten or twelve years previously, which he considers the limit of its protective power, and there-

* Edinburgh Med. and Surg. Journal, No. 66, p. 131.
† London Med. and Surg. Trans. Vol. X, p. 318.
‡ Ibid. p. 326
§ Report London college of physicians 1807.
‖ Ibid Vol. X. p. 326.
¶ See Comment. Vol. XV p. 342.
** Ibid. Vol. XV. p. 86.

fore recommends its repetition after the lapse of that period.* Even however admitting this observation to be well founded, would it not be quite as fair to infer that this circumstance is owing to the fact of infants and children under ten or twelve years of age being less exposed to the contagion because they are kept at home, while the adult is unavoidably exposed by his greater intercourse with those around him to contract the disease if there is any remaining susceptibility in his system to the impression of small-pox virus.† We cannot admit that the explanation of the circumstance noticed by Hufeland as given by him is correct, or that the susceptibility can be renewed, inasmuch it is at variance with what is known to govern the other exanthemata.

There is a general law to which there are but few exceptions, that there is an inherent susceptibility to be affected by the contagion of measles, scarlatina, &c. in almost every individual. That these diseases will almost invariably seize once during life on those who have not previously had them, and that after the disease has expended its violence this susceptibility is permanently and completely destroyed and is never after renewed. The exceptions are so few that they rather establish the general rule than invalidate it, and are to be referred to idiosyncracy of constitution.

The same law which is invariable with regard to the other exanthemata, is equally so with reference to the vaccine. Who ever dreamed that the susceptibility to variolous infection could be in a series of years invariably regained after the individual had passed once through the disease? And yet there are not wanting as many facts to support this opinion as that advanced by Hufeland, Brown, and others: for example an individual has never had small-pox though exposed repeatedly to its influence unprotected by any prophylactic means; after a lapse of some years he shall contract the small-pox and die, apparently proving that the susceptibility has been regained. So also from the case of persons having small-pox twice, it might be inferred that there was a renewed susceptibility to its impression, and yet these occasional occurrences are to be considered as exceptions to a general rule which they do not invalidate. Mr. Thomas Brown of Musselburgh after having for at least nine years believed in and practiced vaccina-

* See Hufeland's Pract. Heilkund.

† May we not impute the occurrence of the disease in those who were earlier vaccinated, to the want of knowledge at that period of the many circumstances calculated to impair the vaccine protection which in those who have been subsequently vaccinated, have been properly attended to, at least in Germany.

tion, apostatized, and as is generally the case in such instances has since been its bitterest enemy attacking it with a degree of inveteracy totally unbecoming a philosophical investigator. In a letter to the Rt. Hon. the Earl of Liverpool concerning the present state of vaccination, "he recommends a recurrence to small-pox inoculation, declaring that vaccination stands convicted of failure."* He endeavours to prove that "the vaccine influence over the human body, as enabling it to resist small-pox contagion, is feeble, partial and temporary." Mr. Edmondston in his reply to Mr. Brown considers this hypothesis as the most prejudicial to the interests of vaccination that has ever been broached, and may be said to comprise within itself all other objections. As we have not sufficient scope in this essay to follow him in detail through his complete and triumphant refutation of the dangerous dogmas of Mr. Brown, we shall confine ourselves principally to the part which relates to the foregoing proposition.

As a ground of doubt Mr. B. mentions its possessing no character resembling the disease it was meant to combat; "now unless we admit the truth of that wildest of German vagaries the homœpathic doctrine to be true this argument is of no weight for in what instance does the action set up by remedies of any description resemble the peculiar diseased action it is intended to remove. The assertion is however not true, as Jenner† did and indeed every practitioner of any observation unblinded by prejudice can trace many marks of similitude between the vaccine and variola more especially in the structure and form of the pustule, and the period of maturation which in the distinct small-pox is about the eighth or ninth day. Another ground of doubt is stated by Mr. B. "its exerting *no* sensible or distinct influence over the human body," and yet in the very next paragraph he observes, "the appearances (of the punctured point) *in general* are accompanied with a *slight* derangement of the system." Mr. B. intends, however, to insinuate that the high degree of constitutional disturbance produced by an exanthematic contagion is the test or measure of security imparted against its own future attacks, and on this assumption he grounds reasoning unfavourable to the protective agency of vaccination.

"But no person who undergoes the *exanthemata* severely is more secure than he who does so mildly, if the genuine phenomena show themselves in regular order." This is set

* See observations on cow-pox, &c. by H. Edmondston, A. M. surgeon, in a Letter to Mr. Thos. Brown of Musselburgh.

† See his Inquiry, &c. p. 31, 48, &c.

at rest by the fact that secondary small-pox has occurred in numerous instances when the primary attack had left undoubted marks of its severity.

The authority of Jenner comes in aid of our assertion; he says, when speaking of a recurrence of variola, "it is singular, that in most cases of this kind, the disease in the first instance has been confluent; so that the extent of the ulceration on the skin (as in cow-pox) is not the process in nature which affords security to the constitution."* It is well known that if the natural secreting organs have their vascular activity raised or lowered beyond a certain point (as when excessively inflamed) the secretion becomes vitiated, and if it be raised still higher an entire suspension is the result. The same thing may and perhaps does occur, when the specific action of the secreting surface within the pustule of vaccine and variola, is disturbed by any concomitant cause productive of ordinary inflammation or ulceration, thereby arresting or vitiating the specific secretion and substituting in its place one, that while it is attended with symptoms of greater severity, affords little or no security to the individual in whom it occurs.

Hence we have a ready explanation of the fact adduced by Jenner and others, of the recurrence of small-pox being more frequent after the previous attack had been confluent; and also of the recurrence of modified small-pox after vaccination and inoculation, when instead of the specific virus being generated by the operation, local inflammation is excited and ordinary pus is formed. On a similar principle, may be explained the circumstance of other eruptive diseases having a tendency to impair the vaccine protection by pre-occupying the system with an action distinct from that which is requisite to constitute the protective influence of the vaccine, which is thereby excluded from taking effect.

Mr. B. asserts that the vaccine phenomena admit of a prodigious variety. To this almost every practitioner can decide in the negative, if variety here means diversity of character and appearance.

He also dwells on the comparative energy of the variolous and vaccine virus, as an argument against the latter having a permanent counteracting influence over the former. But if there is any weight to be attached to the opinion of Jenner† that "the cow-pox virus assimilates the variolous, the former probably being the original, the latter the same disease *under a peculiar* and at present, an inexplicable modification;" this

* Inquiry p. 122. † Ibid. p. 154.

objection falls to the ground, nor is it yet established that the vaccine is less energetic than the variolous principle. It is no unusual thing to see the numbers of a family vaccinated with success even after small-pox has been some time in the house, and the variolous influence established. We have ourselves effected rescues of this kind: in one instance particularly of a child whom we found playing in a chamber with a brother labouring under small-pox, that had considerably advanced into the eruptive stage. He was successfully vaccinated and it proved a perfect protection.

Mr. Brown says that Jenner in stating facts relative to the immunity conferred by the casual vaccine, could only collect a few cases where the security had extended twenty, thirty or forty years; the general impression in the neighbourhood where his observations were made seemed only to be " that those who had undergone the diseases from the cow, *were hard to take the small-pox.*" While many facts of an opposite import were related by him. Some of his facts were undoubtedly anomalous, but the general drift of the greater number went to establish his doctrine.

In relation to the assertions of his only being able to collect a few cases let us hear his own words.* " I have purposely *selected* several cases in which the disease (vaccine) had appeared at a very distant period previous to the experiments made with variolous matter." These periods were 27, 53, 31 and 38 years. As to the expression *hard to take the small-pox*, it is not to be found in the works of Jenner.

Mr. B. appears, as far as can be gathered from his writings, to fix the *maximum* of vaccine protective power at four years, and the *minimum* at six; consequently his cycles must have been completed, the lesser seven times, the greater nearly five times since the introduction of vaccination, twenty-nine years ago: hence for twenty-three or at least twenty-one years past all the vaccinated in every country where vaccination has been introduced have been successively regaining their susceptibility to small pox or that every person born since that time and now above the age of four or six years not having undergone small-pox must be liable to an attack of that disease.†

Now as small-pox has prevailed in many places since 1803 and 1801, there must have been hundreds of thousands exposed to destruction from this cause. Yet they have not been so destroyed; as the testimony advanced in the foregoing part

* See Inquiry p. 11. † See Letter to Mr. Brown by Mr. Edmondston p, 36.

of this essay will sufficiently establish. This of itself triumphantly refutes the opinion which has obtained but too much credence, that the protecting influence of the vaccine may be gradually eradicated from the system by the hand of time.

If this principle is established it will for ever set the minds of the profession at rest on the question of *re-vaccination* which has been so warmly agitated of late years, and to which we shall now direct our attention. The only case in which we would deem it proper to re-vaccinate is where there is reason to suppose that the operation had not been properly performed in the first instance or a doubt arises as to the regularity or perfection of the previous vaccination. In every other we think it is entirely superfluous, and the practice of it having a tendency to unsettle the confidence of the public mind in its protecting agency is to be deprecated.

We are borne out in these opinions by the author of the Letter to Mr. Brown above quoted and also by others. Vaccination must have either a permanent or a temporary preventive power. If permanent re-vaccination is not necessary—if temporary, it must be for a limited or unlimited period. If limited even if the cycle can be determined exactly every individual must be periodically re-vaccinated as long as he lives, which would be unattainable and would not be endured. If the period is indefinite there could be no confidence reposed in the protective agency of the vaccine, as we should be unable to determine when to re-vaccinate, and when we were again liable to attacks of small-pox.*

The forgoing arguments tending to disprove the temporary nature of the vaccine impression are in themselves of sufficient weight to convince us that re-vaccination is wholly unnecessary.

Jenner admitted that "although the cow-pox shields the constitution from the small-pox, and the small-pox proves a protection against its own future poison, yet it appears that the human body is again and again susceptible of the infectious matter of the cow-pox." This he afterwards modified so far as to consider the phenomena occuring after the first supposed constitutional impression as only possessing a local character. The fact of the vaccine impression being occasionally local and which may be ranked among the causes of failure, has led Mr. Bryce to adopt the beautiful and ingenious test which he has proposed to determine when the constitution is affected or not. It consists in re-vaccinating on the fifth day, on the opposite

* See Letter to Mr. Brown, p. 50.

arm, with matter taken from the primary pustule, and on the eighth day, if the constitution is affected, the areola occurs around both punctures.

We have often practiced his method with satisfactory results, and would recommend its more general introduction, though it must be allowed that it has occasionally failed. It is not to be confounded with *re-vaccination* practised long after the individual has passed through the vaccine process, the insufficiency of which may be further illustrated by a fact related by Dr. Henderson in a letter to Dr. C. Robbins, being a reply to his remarks on the proceedings of the medical society of the District of Columbia, on the subject of re-vaccination.

"The North Carolina of seventy-four guns, shipped a crew at Norfolk, Virginia, of nine hundred men. Of these nearly all had been vaccinated or had the small-pox. The surgeon of the ship procured the purest virus and re-vaccinated the crew. Not satisfied with this, Dr. Washington repeated the vaccination before the ship sailed. At Gibraltar, re-vaccination was done with virus from London, and the vigilant officers, to make assurance doubly sure, revaccinated the crew at Port Mahon. Notwithstanding this *ultra* re-vaccination, under such various circumstances of virus, climate, &c. one hundred and fifty-seven of the crew had the varioloid."*

This experiment, performed on a large scale, and under circumstances that did not admit of fallacy, connected with other evidence, prompted the medical society above mentioned, to publish their unequivocal disapprobation of general re-vaccination.†

Having, then, disposed of this question, we shall proceed to notice, briefly, the real causes of the vaccine having failed to prevent the small-pox. They are pointed out by the discriminating Jenner, to whose observations on this subject, very little has been added by succeeding writers.

Among the causes of failure may be ranked dependance on the spurious pustule, which is ragged, brownish, flat, or sometimes pointed, and resembling a common festering, produced by a thorn or any other small extraneous body sticking in the skin.

It is stated by some, and particularly by Mr. Dendy, that the failure to produce the genuine vesicle is partly from the employment of dry lymph.‡

* See Boston Medical and Surg. Journal, No. 26, p. 405. † Ibid. No. 15, p. 225.

‡ Dr. H. Gregory goes so far as to suppose, that lancets, well charged and kept perfectly cool, will retain the virus unaltered, *even* in summer, for about *six hours* only.

This cannot be the case, however, as almost every person in the United States has been vaccinated from the dry scab, and we are not aware that the protection has been less than in Europe, where the recent lymph is most generally employed. Other sources of failure are a hasty or injudicious manner of puncturing, or a disturbance of the vesicle at too early a period to obtain virus, or by the friction of the clothing; ill health of the child, or diseased action of another character, already existing in the part, indisposing it to receive the influence of the vaccine; cutaneous eruption, abrasions of the cuticle, &c.

It has also been shown, by experiment, that particular portions of the skin may be indisposed to the infection. In the Report of vaccination for 1815 in France, it is stated, "a practitioner had previously remarked that some children of the country who had been vaccinated on the arms without success, had afterwards contracted the vaccine by the inoculation which had been performed on the thighs."*

It is an observation of Dr. Jenner, "that the skin, although apparently sound at the point of insertion, is sometimes found to be so influenced by the (cutaneous) disease, as to baffle all our efforts to produce a pustule (or vesicle,) sufficiently perfect to secure the constitution from the contagion of small-pox."

Mr. Edmondston is of the opinion that the great extent of the ulceration of the skin, during the vaccine process, endangers the security of the constitution.

We should, therefore, avoid any thing that may excite too great a degree of inflammation, which not being of a specific character will result in products which cannot afford protection. While we are on this subject it may be in place to say something on the modes of vaccinating, the form of the cicatrix, &c. Of late years various modes have been suggested, either single or many punctures,† deep or shallow, have been contended for. Some have recommended sharp, and others, blunt pointed instruments; some wish to excite a certain degree of inflammation; many endeavour to make the punctures bleed, others, with better reason, deprecate it, as having a tendency to wash away the virus. One vesicle is recommended by some, and two or four by others.

Some are of opinion that the summer is the best time for

He opposes the use of dry lymph, dull points and glasses, especially the first, though he has had *no experience with it*. Lond. Med. and Phys. Journal, Nov. 1826.

* See Dendy's treatise on cutaneous diseases, p. 231.

† Dr. Gregory makes as many as ten or twelve punctures in a circle with a very sharp lancet, having a distinct drop of lymph at its point.

performing the operation; others prefer the autumn or spring. A plan that we have found to answer as well as any other is recommended by Dr. Condie of Philadelphia;* it consists in making a few parallel scratches and crossing them again by an equal number, with the blade of a spring lancet so as to produce a slight blush of redness, after which the lymph is to be rubbed gently over the incisions, and finally a portion laid on over them.

We are of opinion, however, that the safest plan, and the one most likely to result in those appearances that we consider essential to the true vaccine vesicle, is to make but one small puncture in such a manner and with such an instrument as will introduce the lymph between the cuticle and cutis, with the least possible violence to the part. This may be done by a common thumb lancet introduced in nearly a horizontal direction.

The proper age for performing vaccination is fixed by Dr. G. Gregory, between the second and fifth month, that is after the child has acquired plumpness and before it has began teething. In the Edinburgh Encyclopedia, "the end of the third month when the constitution has acquired some firmness and before it is subjected to the disadvantages of the period of teething," is recommended as the most eligible time for the operation. We are of opinion that any time after the child has passed through the strophulus, &c. and the skin has acquired sufficient vigour to resist those abrasions to which it is liable in children, up to the period of teething, provided the skin is free from eruptions, is to be considered as perfectly safe. Its too early or late performance is to be classed among the causes of failure.

If it is omitted until the period of teething, we should wait until the child has completely passed through that process, and the same observation may apply to the time of weaning, which is another of the critical periods of infantile existence.

We shall now proceed to give the appearances that indicate the true vaccine vesicle.

About forty or fifty hours after the insertion of the lymph, if it prove successful, a small red spot makes its appearance on the site of the puncture. About the fifth the papula continuing to increase, a small pearly vesicle is discoverable. On the seventh or eighth day, a slight depression is visible in the cen-

* See Medical Recorder, No. 40, p. 420, or N. American Med. and Surg. Journ.

tre, and the vesicle begins to assume an annular form, and the pink or rose coloured areola, makes its appearance. A distinct elevated border forms at the edge of the vesicle consisting of a bead like cordon, formed by a number of small vesiculæ usually in distinct cells.

On the ninth day,* the rosy blush has spread and attains its acmé on the tenth, when hardness of the axilla is perceived and there is a ferbrile erethism of the system or a decided attack of fever. The colour of the vesicle is a pale bluish white, and the lymph taken from it is perfectly transparent. The diameter of the areola varies according to Bateman† from a quarter of an inch to two inches. We have seen instances where the areola extend to three inches, in diameter, and was strongly marked with the characteristic appearance of the vaccine areola, being formed of two concentric zones of a rose colour, and one of white interposed surrounding the vesicle.

About the twelfth day an escar is formed in the centre of the vesicle, ultimately becoming a dark brown concave crust, leaving on falling off a whitish spot on the skin, which mark should become a permanent cicatrix in the cutis vera. It should be nearly of a circular form, having indentations arranged around the centre, giving to the cicatrix a radiated appearance.

Dr. Millar of Baltimore says, that he has observed a material difference between the cicatrix of small-pox and the vaccine; the first being marked by radiated sulci, the latter by stellated points or indentations arranged in a circular form, and he thinks that the experience of many years warrants him in making the declaration that the degree of security afforded by the vaccine is indicated by the number and distinctness of these stellated points, which he says wear out in process of time, and then the system is again susceptible to the impression of the small-pox virus. These opinions want further confirmation, and though they appear imposing at the first glance, yet as we have every reason to believe that the vaccine impression is not eradicated from the system by time we cannot subscribe to them however ingenious.

The size of the cicatrix should not be too great, nor should it be too deep, as this indicates a previous state of ulceration, which is believed to impair the vaccine impression. Notwithstanding so much has been said of the cicatrix as a safe criterion we have seen very equivocal ones attended with per-

* See Dendy on Cutaneous Diseases, p. 227–8. Bateman and some others say the eighth day.

† See Synopsis, p. 220.

fect security: on our own person the cicatrix is oblong, shining and with scarcely any visible depressions, and though the vaccination was performed at least twenty-seven years since, shielded by the "Ægis of Jenner" we have repeatedly passed unscathed through the midst of the pestilence.

The irregular appearances* are deserving of attention more especially as we are of opinion that it is owing to not properly discriminating between the true and imperfect vesicle, that most of the confusion and uncertainty relative to vaccination has occurred, and it is to this cause, and the employment of deteriorated matter that we are to look for many of the failures alledged against this prophylactic. These irregular appearances " may either result from the employment of matter so corrupted as to be incapable of producing the perfect disease, or by the inoculation with good lymph under such constitutional states as to prevent its correct operation.

There are no *uniform indications* of imperfect vaccination; on the contrary there are three varieties of irregularity, *pustules*, *ulcerations*, and *vesicles* of an irregular form. The *pustule* is like a festering boil, occasioned by a thorn sticking in the skin, and its efflorescence is premature and seldom circumscribed.

It increases rapidly from the second to the sixth day, before the end of which, it is usually broken, when its place is supplied by an irregular yellowish brown scab. *Ulcerations* probably arise from the pustules just stated, that are abraided at a very early period in consequence of the itching excited, or being tender and prominent, are injured by the friction of the clothes. They are manifestly very irregular. Of the *irregular vesicles* " which do not wholly secure the constitution from the small-pox," Willan describes and figures three sorts.†

" The *first* is a single pearl-coloured vesicle, set on a hard dark red base, slightly elevated. It is larger and more globate than this pustule above represented, but much less than the genuine vesicle; its top is flattened or sometimes a little depressed, but the margin is not rounded or prominent.

" The *second* appears to be like the genuine vesicle, but it is somewhat smaller, and more sessile, and has a sharp angulated edge. In the *first* the areola is usually diffuse and of a dark rose-colour; in the *second* it is sometimes of a dilute scarlet-colour, radiated and very extensive, as from the sting of a wasp. The areola appears (earlier) round these vesicles on

* See Bateman's Synopsis, p. 222. † Ibid. p. 223.

the seventh or eighth day after inoculation, and continues more or less vivid for three days, during which time the scab is completely formed.

"The scab is smaller and less regular than that which succeeds the genuine vesicle; it also falls off much sooner, and, when separated leaves a smaller cicatrix which is sometimes angulated. The *third* irregular appearance is a vesicle without an areola." These imperfect inoculations result from two causes the employment of effete or corrupted virus and the presence of acute or chronic cutaneous eruptions. The first may arise from the action of heat, moisture, rust or exposure to air. The last are generally herpes, psoriasis, impetigo, lichen, and most frequently porrigo, and according to Willan scabies and prurigo. Most of the eruptive fevers as rubeola, scarlatina, and varicella interfere with the progress of the vaccine vesicle, and this will even occur from the presence of typhus fever and influenza. The vesicle without an areola occurs in persons who have previously received the infection of variola, or are affected with some other contagious disease during the vaccine process. The constitution is sometimes fully protected even by irregular vesicles, yet it is mostly imperfectly guarded by them, and we should therefore re-vaccinate, which is the only case in which it is justifiable. The imperfect protection offered by these vesicles, is perhaps a fruitful source of the varioloid disease, and the negligence of practitioners in not paying proper attention to these irregular appearances, "and resting satisfied with them, has doubtless given rise to much of the distrust and opprobrium which the practice of vaccination has experienced."

A few words on the subject of the deterioration of the vaccine virus by the action of the human constitution upon it successively through a series of years, and we will leave this highly interesting part of the subject, our observations on which, have been insensibly protracted to a greater extent than was at first contemplated.

That the vaccine phenomena are milder when produced by inoculation with the virus than when contracted in the natural way, is well known, and may be explained on the same principle as that of variolous inoculation, and that for the *scab* in sheep, without resorting to the supposition of diminished energy. That it may be supposed by analogy to be ameliorated as the variolous virus is shown to be by the experiments detailed in the early part of this essay, yet even this does not prove diminished protecting power, and moreover is not the result of constitutional agency.

That there is a greater difficulty in producing the vaccine

now than formerly we have not observed, though it is so stated in the Report of the Philadelphia medical society, on the authority of Dr. Harlan, who gives it as an argument in favour of such supposed deterioration: we should rather impute it to an attempt to vaccinate with genuine scabs that had been kept so long as to have impaired the activity of the virus; or some defect in the praxis. Indeed we believe that this like the virus of the other contagious exanthemata retains, and will if ordinary care be taken continue to retain its individuality. This has been strikingly exemplified in variola, as the disease presents the same appearances at the present day as it did upwards of a thousand years ago to the Arabians. "Under fair circumstances, not the most trivial deviations can be detected between the last vesicle produced and the first case inoculated from the cow by the discoverer himself."*

Yet there are individuals who speculate on the subject of recurring to the original source, among whom are Drs. Harlan and Kinglake.†

A trifling difficulty stands in the way of this plan, even if the necessity of the case should demand it, as is observed by Mr. Edmondston. It is that the vaccine disease is not epizootic in any county of England except Gloucester, in Lombardy and in a few other places on the continent of Europe. It has also lately been discovered to exist in the state of Maine, in N. America. Jenner found at one time, a difficulty in prosecuting his earlier experiments, owing to the supplies of virus from the cow having failed from the dryness of the season; he was of the opinion that we should be under no necessity of seeking fresh supplies from the cow. This opinion he is however understood to have subsequentlychanged in favour of that of the degeneration of the virus from the cause above specified, to which he imputed the occurrence of modified small-pox. It does not appear that Jenner had any evidence in his own practice of such degeneracy, but resorted to this hypothesis, as a probable means of explaining phenomena, which about this period attracted some notice.‡ Dr. Smith, formerly the United States agent for vaccination, states in his circular to the public, "that the virus of small-pox intermixes with the vaccine matter, by a natural and unavoidable process, and in a manner that may possibly elude the utmost care and vigilance of any personto prevent it." To this unsupported assertion, which was probably intended to screen him from the

* See Edmondston's Letter to Mr. Brown, p. 65.
† See London Med. Repository. ‡ Ibid. p. 67.

imputation of negligence, we will reply in the language of Dr. Macaulay of Baltimore. "It has been known almost from the first discovery of vaccination, that if matter be taken from a vaccine vesicle in a constitution where small-pox is manifest that it will in almost all cases produce the variolous disease, or some of its modifications; for by a general law of the economy, the most forcible contagion, will invariably predominate, but we have in vain sought for an instance either in the records of our art, or during the prevalance of small-pox in our city, where vaccine matter, taken from a subject in whose system no symptom of small-pox contagion has been observed to exist in which it has ever excited the variolous disease. If, as is plainly inferred by the circular, the contagion of small-pox is capable of influencing the vaccine virus, even in systems in which small-pox itself is not manifested, then there is no surety. Fortunately no such fact has ever been remarked at the institution in London, where small-pox has been more prevalent at all times since its establishment than it has been in this city (Baltimore) of late, nor has it ever been verified by our own observations."*

Section second. Of Varioloid.—We shall now, according to the line marked out for us, consider the nature of the varioloid.—Is it a variety of variola? Under what circumstances is it communicated, and may it be communicated to the same individual more than once? A very few words might suffice as a reply to these interrogatories, but as it is our wish to embody as much useful information in this essay as is consistent with its more immediate objects we shall enter a little into detail.

In relation to the two first queries we believe it is now universally admitted that this which was at first thought to be a new disease is only a modification or variety of variola; and is now generally treated of, under the name of modified small-pox, the nature of the virus being the same, though its effects on the constitution as well as its outward manifestations being more or less altered by previous variolation or vaccination.

This is established by the fact that genuine small-pox has been produced by inoculation with the lymph of varioloid pustules, but as we have endeavoured to establish our positions by an appeal to the authority of others, rather than our own throughout this essay, we shall subjoin the following evidence.

The matter taken from the pustules on those who had formerly been vaccinated, will produce small-pox.†

* See Med. Recorder for 1822, p. 380. † Thomas's Practice, p. 257.

The matter of the mild form of the disease or the varioloid, with which vaccinated persons are affected, produced the malignant small-pox in unvaccinated persons.*

Sir Gilbert Blane says, I know by my own experience as well as from the testimony of others, that the matter of the small-pox pustules after vaccination, will by inoculation give the small-pox; hence, says he, we can hardly deny it the name of small-pox.†

M. Pougens, a French physician, proved in 1817 that the pustules of the varioloid disease, which affected vaccinated persons, did produce regular small-pox in the unvaccinated.‡

Mr. Cross and others do not doubt, that the vacccinated who were attacked by the epidemic, had really the small-pox though modified; they proved this by inoculating others with matter taken from these patients; regular small-pox was produced.§

In the review of Mr. Cross in the same journal it is mentioned that the evidence that small-pox can be produced from the matter of pustules taken from vaccinated persons who were attacked by the epidemic, is so great as to set this question at rest forever.

It is unnecessary for us to cite further evidence on this subject, but we may observe generally that we believe all the most conspicuous writers on this disease whom we have consulted, whether of this country or Europe, concur in the correctness of the above denomination of "modified small-pox."

The term "varioloid" should in strictness be discarded as it originated when doubts hung over this subject which it may only have a tendency to perpetuate; and at any rate adds one more to the already numerous vocabulary of useless terms with which our science is burthened.

We cannot dwell on the obscure topic of the modification of disease, without digressing too far from the immediate objects before us, but in order to illustrate the views we have of the subject we may state the following postulates.

First. That there is in every individual a greater or lesser inherent susceptibility to the impression of small-pox virus, which by variolation or vaccination may be partially or entirely removed according to the circumstances of constitution, &c. under which they are communicated.

Second. That in some individuals this tendency from idiosyncrasy or other cause, is not eradicated entirely by a second

* Edinburgh Med. and Surg. Journal, No. 56, p. 521.
† Ibid. No. 63, p. 230. ‡ Ibid. No. 66, p. 122.
§ London Med. and Surg. Trans. Vol. X, p. 330.

inoculation or vaccination, or even by a second attack of small-pox.

Lastly. In others, though it may be partially removed, or have been originally so indistinct as to be scarcely if at all perceptible under ordinary circumstances of exposure; yet when the epidemic constitution is aggravated and the atmospherical predisposition is very intense and favourable to the activity of the virus, they will be attacked with the disease. This atmospherical influence has been noticed by Sydenham, Van Swieten and others, but was lost sight of until the late prevalence of variolous epidemics, when it again attracted the attention of medical writers.

Where there is a remaining portion of susceptibility it varies in degree according to the intensity of the original variolous impression; and hence we observe an endless variety of modifications, which approximate in regularity to the characteristics of the disease contracted in the natural way in the inverse ratio of this previous impression.

It is sometimes impossible to communicate the vaccine disease even by repeated attempts, and yet the individual may subsequently take the small-pox, and have it in the most aggravated form. This admits of explanation on the ground that the susceptibility was, under ordinary circumstances, so slight as to be incapable of being awakened into action either by the vaccine or variolous impressions, or was interrupted by some occult cause at the time; and yet when the atmospheric predisposition is most favourable to the latter, this dormant susceptibility is awakened and variola is the result.

We have known several careful attempts made to vaccinate a child without any visible impression, and after the lapse of a year or more, on a renewal of the effort, a good vaccine pustule was produced, accompanied with a distinct areola. Here some peculiar influence pre-occupied the system and prevented it from assuming the series of actions which constitute the vaccine disease; on the removal of which, they occurred with regularity. This variable susceptibility is capable of further illustration by a reference to the impression of narcotic poisons on the nervous system under various states of excitement. A dose of laudanum which would destroy life under ordinary circumstances, will, when the system is suffering under intense pain produce but a slight impression; or, as in *mania a potu*, the individual may take an immense quantity of opium with no sensible effect whatever owing to excessive nervous excite-

ment, which, when it is allayed, the system returns to its accustomed susceptibility to the impression of this poison.

In what then, it may be demanded, do these modifications of small-pox consist?

We reply that in some individuals in whom vaccination or variolation has been produced, there is only a partial or incomplete removal of the susceptibility to small-pox, in consequence of which, there is still a liability to an ameliorated form of the disease, the specific nature of the impression being the same as in the original attack, but varying in degree in the inverse ratio of the previous impression, and directly as the greater or less intensity of the primary susceptibility. This is indicated by the greater or less degree of inflammatory fever, the earlier or later period of the appearance of the eruption, and the maturation and desquamation taking place sooner; and lastly by the general absence of secondary fever which is considered by Jenner* as not of a specific nature like the primary, but results from the irritation produced by the ulcerative process going on in the cutis. This does not occur in most instances of varioloid and hence there are no pits generally left after the falling off of the scabs in the latter.

That modifications of variola resembling those called varioloid independent of the influence of artificial variolation or vaccination, may occur from constitutional or epidemic influence is proved by the fact of their having existed before the introduction of inoculated small-pox, as described by Sydenham and Van Swieten, both of whom considered it a spurious kind of small-pox.

The latter treats of it under the names of steenpocken, &c. He observes, "It is well known to all practising physicians, that there sometimes occur certain disorders, which, as at first sight they do not appear different from the genuine small-pox are called so by people who know little of the matter, whilst physicians call them a *bastard small-pox*. I have observed three kinds of this *bastard small-pox*. They are generally preceded by a little slight fever, sometimes only by a little faintness, and spontaneous lassitude. Then, prominent red pimples break out here and there on the skin, sometimes the first day; and sometimes not till the second or third; and sometimes these pimples immediately harden, dry up, and fall off. These pimples the common people in this country generally call the *Steenpocken*. Sometimes they seem distended with a thin lymph, especially at the point; these too, however,

* See Essay on Artificial Eruptions.

immediately dry up, and fall off; they are called *Waterpocken*; sometimes the lymph is wanting, and nothing appears but empty vesicles, but distended notwithstanding, which likewise soon fall off; these are called *Windpocken*. These disorders have several other names in different places; but there is no occasion for my giving them. But it is to be noted, that all these spurious kinds of small-pox have this one character in common, that they are not attended with the same symptoms, that the true kind is in its first stage; that they break out at no stated times, and that their pimples never contain a genuine pus, or leave any marks on the skin. I have seen the spurious small-pox break out on the ceasing of the true kind, which had prevailed epidemically for a long time, and sieze both the young and old, and in great numbers; nay they had the appearance of being contagious, since they attack almost every body who frequented the same school. However I never saw any person violently ill of them; I do not remember any one to have died of them; nay it is so slight a disorder, that it is seldom those ill of it trouble a physician, and seldomer still, that, though they all get the better of it, they take any kind of physic. Hence it appears that we are not to be surprised at ignorant people mistaking the spurious for the genuine small-pox. Is there, then the same infection in the former as in the latter, with this difference, that the former, as either already worn out, or become more inert, is, from its own nature, less apt to disorder the body, or more apt to be easily carried off by suppuration? Some at least have thought so, in consequence of their seeing the spurious small-pox prevail, when the genuine small-pox had done raging. But to this opinion it may be objected, that the spurious small-pox did not spare those, who, but a few months before, had got over the genuine kind, though such persons are wont to be ever after exempt from the variolous contagion: add to this, that those who had had the spurious small-pox, were often siezed a short time after with the genuine sort, if it happened to be rife. But let these matters be as they will, it is confirmed by practical observations, that *Sydenham** was perfectly right in taking notice, that those are by no means exempt from the contagion of the genuine small-pox, *quos adulterium variolarum genus aliquod, adhunc morbum nihil attinentium, prius objecirit*, who have been already afflicted with any of the spurious kinds, which have no connection with the genuine kind.

* Sect. iii. cap. i. p. 161.

"If we now likewise take into consideration, that sometimes the genuine small-pox happens to be very mild, as causing but very little disorder in the body, bringing with it but very few, and those very slight symptoms, and soon drying up and falling off, it cannot appear strange, that the ignorant should confound the two kinds one with another. And as the spurious sort often attacks the same person two or three times, it is plain that the many accounts we have of the same person having had the genuine small-pox more than once, are not well enough grounded to command our entire belief. Besides, several of these accounts come from persons who had them from their parents, without remembering themselves any thing of the matter as happening in their earliest infancy.

"But we are not to think so slightly of the testimony of physicians, long skilled in the treatment of this disorder, and of course perfectly well acquainted with its nature, when they aver that they themselves have seen the same person twice, and even oftener, infected with the genuine small-pox. Thus *Forrestus** tells us of a son of his own, that he had the measles at the age of four, after having twice had the small-pox."

"An observation of *Diembroeck's*† seems, I must own to carry more weight with it. Describing the epidemic constitution of the year 1640, he says, *varios hoc tempore vidimus, qui cum variolas copiosissimis habuissent, vix ab his fanati, paulo post in idem malum reciderunt, atque illis ista secunda vice sepe multo majori copia eruperunt, quam prima: Imo aliqui visi sunt, qui intra spatium sex mensium ter copiosissimis variolis laboraverint, quod aliqui raro solet contingere, imprimis tam parvo temporis spatio;* 'At this time I saw several who, having had the small-pox very thick, were scarce recovered, when they fell ill of it again, and often had it the second time, a great deal thicker than the first; nay some have been seen to have it very thick, thrice within the space of six months; a thing which happens but seldom, especially with regard to the shortness of the period.' That *Diembroeck* was a sedulous observer of diseases, sufficiently appears from the observations he has left us on the plague, the small-pox, the measles, and other diseases; yet I cannot, I must own, help suspecting a little, that on this occasion he confounded the spurious with the genuine small-pox; for a little lower he says, *Multis post primum aut secundum, sed pluribus non ante tertium, vel quintum, diem Variolæ prodibant. Quibus tardius apparebant, illi periclitabantur, multi-*

* Lib. VI, Obser. 43, Tom. I, p. 254. † Oper. oma. p. 290.

quo moribantur: 'The pock came out on many after the first or second day; but on more, not before the third, fourth, or fifth. Those on whom it appeared latest had it very bad, and several of them died.' Now it is plain from the daily observations of *Sydenham*, and other physicians, that, all other circumstances being equal, the sooner the genuine small-pox comes out, the more dangerous it proves. May we not therefore suspect, that the small-pox which came out the first or second day, and did not prove dangerous, was of the spurious kind, and that which broke out later, the genuine disorder, especially as he tells us, that the pimples came out much thicker the second time than the first?

"But there is in the same author another observation,* which seems to render it still more probable, that the same person may often have the small-pox. He saw it happen four times in the very house in which he lived, and he expressly tells us, he observed the case with the greatest attention, and scarce let an hour pass without looking at the sick. The first was a youth of fourteen, and he had the disorder very thick. During his recovery, and on the fourteenth day after he had been taken ill, a brother of his, aged twelve, was in like manner siezed with the disorder, and had it thick. When this boy had been ill sixteen days, a sister of his, of ten, took it; and, at length, in fourteen days after, a younger sister, of eight, who had it very thick like the eldest of the two brothers. In the mean time, the two brothers, being quite recovered, were permitted to walk abroad; but, on the twentieth day from the disorder's seizing the youngest of the girls, the eldest of the boys was again taken ill of a fever and small-pox, and then the other, on the recovery of the first: Afterwards, the two sisters sickened and recovered, in the same order. And thus every one of the four had the disorder twice within a very short period. From this description, it seems pretty evident, that it was the genuine sort of small-pox they all had the first time, as the spurious sorts are much sooner over: But, as he takes no notice of the duration of the second disorder, nor so much as says that the pock was thick, we may still lawfully entertain some doubt of this second disorder having been the genuine kind of small-pox. One thing is certain, that they all recovered; and it seems very surprising, that the delicate bodies of these children could have borne so grievous a disorder, as the true genuine small-pox, twice in so short a space of time. Besides, he adds, that the

*Oper. omn. p. 295.

disorder did not leave the least scar or pit on any of their faces; another circumstance, which would be quite out of the common course of things if it was the genuine small-pox they had both times."

If we compare these statements with what is at present observed of the course, symptoms and results of modified small-pox, there will be but little room to doubt that the bastard small-pox, of Sydenham, is the same as the varoiloid of the present day; arising from the same cause, a partially remaining susceptibility to the small-pox virus succeeding to incomplete variolation in the first instance.

From all that has been observed during the late prevalence of the variolous epidemics there appears to be three principal divisions of modified small-pox.

First. That which attacks the previously vaccinated.

Second. That which occurs subsequently to inoculation; and,

Third. That which succeeds to an attack of natural small-pox, commonly called, secondary small-pox.

Under these three principal divisions there is every variety of appearance presented in gradation from the confluent form of unequivocal small-pox down to the eruption of a few vesicles with but slight, if any indisposition, drying up in a few days and forming a horny scab, which falls off earlier than is observed in regular small pox, leaving no depressions on the skin and being unattended with secondary fever.

We witnessed one case in particular, subsequent to vaccination in which the confluent small pox occurred but slightly if in any degree modified. The smell peculiar to small-pox so frequently wanting in varioloid was here present; the eruption occurred at the proper period after a high fever, with pain in the back; and the disease was attended with secondary fever and delirium. After the scabs fell off, a very few small pits were observable on the face.

There is in addition to the foregoing an "artificial modified small-pox," which has been formally proposed by Dr. Ferguson as a more certain prophylactic than vaccination.

His plan (which is superceded by what Dr. Willan has said on the subject) consists in inoculating with "both poisons;" that is with the mingled virus of the kine-pox and small-pox, and thereby artificially induce a hybrid disease which is often produced naturally. This disease is termed by him varioloid.

His proposal "is founded on the ascertained power of the cow-pox to modify either the state of the constitution or the operation of the small-pox virus, so far as to ensure the miti-

gating influence of vaccination, together with the fancied greater protecting power of variolation."*

This plan, which possesses no advantages over ordinary inoculation, wears however a captivating aspect to the multitude whose faith in the prophylactic power of vaccination already wavering, will be thus entirely overthrown. We may therefore be excused for showing here as it was omitted in its proper place the fallacious nature of the advantages which this author hoped to derive from his expedient.

It is impossible to determine which of the two poisons (if they are distinct) is possessed of the greater intrinsic power; though Dr. Jenner thought the superiority belonged to the cow-pox. Dr. Willan says, "that when a person was inoculated with vaccine and variolous matter about the same time, both inoculations proved effective." This would seem to prove an equal energy.† Let us then assume for the sake of argument, that their power is equal; now as it is notorious that in every individual constitution there exists a difference of susceptibility to the action of two poisons. Here arises a source of fallacy and confusion at once which we have no means of remedying. Dr Willan then goes on to say, "that the vaccine vesicle proceeded to its acme in its usual number of days, and the maturation of the variolous pustule was attended by a variolous eruption of the skin."

"I cannot," says Mr. Edmondtson, whose language we employ on this occasion, "imagine what advantage could be gained by this result, even supposing the two to be acting separately and distinctly at the same moment—which is granting more than I am willing to grant. If the two be coexistent and coefficient, then we have present vaccination and inoculated small-pox, a condition which brings with it no improvement whatever. If cow-pox be supposed to predominate, then the patient is in the same predicament as if no small-pox had been present, and we advance no farther than we do under the vaccine regime. If small-pox assume the ascendency, then we are thrown back upon small-pox inoculation—no enviable fate. In no instance can we have any thing like an assurance that both forces, when they meet, will move on in the diagonal line of mildness and safety, and though they do cordially coalesce, the disease produced is no other than what is almost invariably the consequence of small-pox supervening upon vaccination."

In addition to these observations of Mr. Edmondston, we

* See Edmondtson's observations on cow-pox, p. 110, &c. † Ibid. p. 111, 112.

may remark, that in a great majority of instances, individuals sustain no attack of variola after vaccination, but if the plan of Dr. Ferguson is adopted, all may be liable, besides the original effects produced to an attack of modified small-pox as much as after inoculated small-pox of which it is but a modification.

It is less efficacious and less estimable than vaccination inasmuch if the varioloid supervenes in a *few* instances to the vaccine, it will in a great proportion of these instances be at least as mild as that disease which is imparted by Dr. Ferguson's method to every individual. We should further be disposed to deprecate the practice of Dr. F. as it is based upon the supposition of the insufficiency of vaccination to afford permanent and complete protection, which opinion we have endeavoured to show, is in the general unfounded.

It is impossible within the limits allowed us to give a satisfactory account of the variolous epidemics which have appeared in this country since the year 1821, when it was first introduced into Baltimore from Liverpool, though there are ample materials scattered through our numerous medical periodicals to furnish such a history.

To these we must therefore refer, with this general observation, that from all the evidence they afford it appears that the varioloid is communicated under precisely the same circumstances as the genuine small-pox, but only attacks the previously variolated or vaccinated, and may occur either sporadically or epidemically according to the degree of favourable atmospherical influence. We have never in our own practice, or from the writings of others,* known of a second attack of the varioloid, though we think it by no means impossible that such cases have occurred and they would be in perfect accordance with what we have said on the subject of susceptibility.

Before we conclude, we wish to make a few observations respecting the identity of the varioloid, with varicella or chicken-pox, so zealously contended for by Dr. Thompson of Edinburgh;† on this subject we shall be brief, as we have not space to enter fully into this interesting discussion.

We will here insert a condensed view of Dr Abercrombie's observations on this subject, communicated in a letter to Dr. Thompson.

First. He has seen small-pox epidemic, without observing in connection with it any examples of the vesicular disease (va-

* Unless the cases mentioned by Van Swieten and others, of variola occurring three times, are to be considered of this nature.

† See Thomson on Varioloid, p. 190.

ricella) of Mr. Bryce* nor could he ever trace any example of the latter to the contagion of small-pox.

Second. He has seen the vesicular disease epidemic without noticing any cases having the characters of variola nor has he been able to trace the latter disease to the contagion of the vesicular disease.

Third. He has seen the vesicular disease affecting those who had been previously vaccinated or variolated, and those who were unprotected exhibiting in all the same characters and appearances.

In one case an unprotected infant a fort-night old, had the disease resembling in every feature, that which had occurred in two children of the same family previously vaccinated.

Fourth. This infant was shortly after vaccinated, and the pustule went through its regular course, which fact had been also observed in Edinburgh. He never saw vaccination advance regularly in one who had been affected with small-pox.

Fifth. He knows of no case in which this vesicular disease has been communicated by inoculation, though in Edinburgh it was repeatedly tried. *Sixth.* Small-pox does not prevent or modify the vesicular disease, and vice versa. *Seventh.* Nor does vaccination prevent or modify the vesicular disease.

Dr. Abercrombie further observes a difference in the nature of the vesicle of varicella and varioloid, in the former, they were from the first purely vesicular, and the vesicles when punctured at an early period, fell completely to the level of the surrounding integuments. The eruption of small-pox on the other hand, is, in all its modifications, at first a solid tumour; at a certain period, fluid begins to form in it; but if this fluid be discharged about the third day, then is found beneath it, a firm tubercle, the remains of a tumour which is gradually passing into suppuration.

In modified small-pox this tubercle remains for some time after the formation of the crust, the disease having been arrested in its progress. In regular small-pox it speedily disappears by the complete suppuration of the pustule. We are induced merely from observation, to believe that the pustules of original and modified small-pox, have their seat in the rete mucosum, and that on inspection they will be found to be constituted of a number of cells either communicating with each other or not; formed by dissepiments which radiate from a central

*Mr. Bryce differs from Heberden in believing this disease not communicable by inoculation.

point, and that as the inflammation runs high the ulcerative process destroys this structure and erodes the cutis vera into sulci corresponding with the cells. In confluent small-pox, this primary structure is early destroyed and the pustules run together, so that this appearance is less observable. The same is observed in the vaccine pustule, and those produced by tartarized ointment; which exactly resemble the variolous pustule. If the observations of others should be found to confirm the above suggestions, we shall always have a correct diagnostic, as the vesicle of varicella is composed of one cell. Here is at once presented a novel field for pathological anatomy, to which microscopic observations might be very happily applied, and we doubt not it would richly reward the labourer who would investigate the proper seat, and structural appearances of exanthematous and other cutaneous diseases.

In conclusion: we cannot close this essay without the expression of our regret that we have not a "NATIONAL VACCINE INSTITUTION," established on a broad and liberal plan, which should be so regulated as to perpetuate an ample supply of *pure* vaccine virus, and distribute it with promptness and facility into every section of our widely extended country. The aid that would be thus bestowed, toward the suppression and final extinction of the most hideous and mortal scourge which can afflict the human race, is incalculable.

It is indeed a subject of some surprise that an enlightened government like ours should be so far behind the older and more despotic states of Europe; and that more than twenty-nine years after the discovery of vaccination, the importance of this subject still remains to be urged. Had the lamented Dr. Holcombe of N. J. late member of Congress, lived, this stain, through his exertions, would ere now have probably been wiped from our escutcheon, but unfortunately for the interests of vaccination, he has departed to "that undiscovered country, from whose bourn no traveller returns."

We might here enter at large into the discussion of the high importance of such an establishment, but our limits will not permit us: we may, however, be indulged in the following interrogatory. Is not the preservation of the health and lives, in our extensive empire, not only of the present generation, but of unborn millions, of greater national importance than reconciling the *pecuniary* interests of a comparatively few individuals of the manufacturing classes?

And would not our National Legislature be consulting the vital interests of the country, of posterity, and of mankind at large, by employing some of their time, and the superfluous

wealth of the nation to carry some eligible plan for the effective distribution of the vaccine into vigorous operation?

To illustrate the advantages to be derived from legislative enactments, in relation to this subject we shall quote from the Quarterly Review (No. 66, 1825) the following passage.

"About twenty years ago, when it was proposed to purify the medical profession from quackery and ignorance, by legistative enactments, the late Dr. Gregory of Edinburgh, published a letter on the subject, in which he remarks, 'that England is a free country, and the freedom which every freeborn Englishman chiefly values, is the freedom of doing what is foolish and wrong, and going to the devil his own way.'

"This is strikingly exemplified in the present state of vaccination in Great Britain, compared with its state in other countries in Europe. In the latter, general vaccination was ordered by government; no one who had had neither cow-pox nor small-pox, could be confirmed—put to school—apprenticed—or married. Small-pox inoculation was prohibited. If it appeared in any house, that house was put under quarantine; and in one territory, no person with small-pox was allowed to enter it. By such means the mortality from this disease, in 1818, had been prodigiously lessened. In Copenhagen, it had been reduced from five thousand five hundred during twelve years, to one hundred and fifty-eight during sixteen years, (that is from an annual mortality of four hundred and fifty-eight, to an annual mortality of nine.)

"In Prussia, it had been reduced from forty thousand annually to 3000;" (something more than twelve to one;) and in Berlin in 1819, only twenty-five persons died of this disease;" (about one in eight thousand.) In Bavaria, only five persons died of small-pox in eleven years; and in the principality of Anspach it was completely exterminated.

In England, on the other hand—in England, the native country of this splendid and invaluable discovery, where every man acts on these subjects as he likes, crowds of the poor go unvaccinated; they are permitted not only to imbibe the small-pox themselves, but to go abroad and scatter the venom on those whom they meet. A few years ago it broke out in Norwich, and carried off more persons in one year than had ever been destroyed in that city by any one disease, except the plague. A similar epidemic raged at Edinburgh; and last year, it destroyed within one of one thousand three hundred persons according to the London bills of mortality."

It is thought that the genius of the British government as well as of our own, does not admit of a legal enforcement of

vaccination. Far be it from us to recommend any measures that would set at nought our free institutions; but we cannot see that it would be any more arbitrary to protect the inhabitants of these United States by an enforcement of a measure calculated to eradicate one of the most destructive of plagues, than to prevent the introduction of pestilence by strict quarantine laws which are more irksome, and frequently more partial in their operation. It would only have the effect of compulsion upon the idle, the worthless, the ignorant and the prejudiced, and in a few instances the piously bigotted. On the rest of the community it would have no such effect as it would then, as it is now, be voluntarily submitted to.

Admitting that an individual has a right to encounter unprotected, the ravages of disease, still he has no right to communicate pestilence to his fellow, and in this, as in innumerable instances, even where equal laws are administered, individual right should be relinquished for the public weal especially as this relinquishment inflicts no injury, but rather confers a lasting benefit.

How easy would it be to compel paupers in our Alms House to submit to vaccination inasmuch as they are supported at the public expense; state prisoners who have in other respects violated the laws; sailors before they obtain their protections, or are admitted into our hospitals;* and soldiers during enlistment. And further let it be obligatory on all who administer the marriage ordinance, to demand a certificate of vaccination or variolation, and also on teachers, before the admission of scholars into public or private schools; let it be included in the indenture of the apprentice, that he shall submit to vaccination, and his master obligated to see it performed, and we shall soon see the prejudices against vaccination completely eradicated and our country will then enjoy the same immunity from small-pox, as does the continent of Europe at present. But we will now leave this subject under the hope that as light and knowledge are rapidly gaining ground this "consummation devoutly to be wished," will be ultimately attained, and we trust in the eloquent language of Cicero which we have placed at the head of this essay, that as "time effaces the comments of opinion it confirms the judgments of Nature."

* All children born in the lying-in department of the Pennsylvania Hospital are required to be vaccinated by the regulations of that institution.

ART. IV. *Observations on Vaccination. By* SAMUEL MILLER *M. D. Professor of the Theory and Practice of Medicine in Washington Medical College, Baltimore, &c.*

Few remedies, whether curative or prophylactic, have been exempt from reverses of reputation. None of the greater discoveries in science, have attained perfection at once; they have all been subjected to probation, under which they have sustained the utmost mutability of character. At their first promulgation, they have been siezed on with that rapacity which the human mind evinces for novelty, their importance magnified by the zeal of their partizans, beyond the bounds of rationality, and when the fallacy of their high pretensions are exposed, depressed, not only below their merits, but for a time, covered with the oblivious mantle of ridicule or contempt. To the sanguineness and variableness of disposition, add our limited acquaintance with the laws of nature, and we have sufficient data to account for all the vicissitudes of science. From ignorance of the laws which govern the animal economy, we are incapable of determining the manner in which any physical agent acts upon the structure, much less to what extent each action reaches. We know that an agent will produce a particular action at one time, which it will fail to effect in the same individual at another; but we know not how it operates in the first or the cause of failure in the latter instance. Whilst this state of ignorance continues, we must rest content to observe facts, and apply our remedies according to the knowledge we obtain by experience, on the principles derived from analogy. When this period of non-age will cease, it is impossible to divine. It must endure, however, until observation has extended to the extreme limits of physical phenomena, and whether we are yet on the rout to this desirable goal, cannot be known, for the philosophic is so highly engrossed in experiment, as not to enjoy leisure for the collocation or systematizing the knowledge already obtained.

Owing to this imperfection of our science, and the impossibility thence arising of determing *á priori* the extent or duration of morbid effects on the system, the importance of Jenner's discovery is already threatened with reversal. For many years, the generally observed proyhylactic virtues of vaccination impressed a confidence that would be universally and permanently efficacious; but no sooner had facts proven that its power was not invariable, than opinion began to shift to the opposite extreme, and declare that as it failed in some cases, it was unavailing in all: that it was a dangerously deceptive practice and only led to faithless security.

If hope flattered too much on the first supposition, a slight loss of confidence should not hurry into sudden and utter condemnation. If vaccination possesses any power to ward off small-pox, which is not denied by the most septical, may it not be still sufficient for all purposes, if judiciously applied? It must be admitted, that it has not come up to the extent of our early anticipations, but that it does in *all* cases for an idefinite period of time, exert an antagonizing influence against small-pox, must be also conceded: and even in those instances where it has failed to prevent, it has modified and meliorated the loathsome pest. The question now necessarily obtrudes, why this diversity of result, which, if satisfactorily answered, as it is hoped it can be, will restore the practice to credit.

However we may impose on ourselves, by softening down or disguising facts, it is nevertheless true, that small-pox does frequently occur after vaccination; and notwithstanding the efforts made to place those facts parallel with those of secondary small-pox, the position is wholly untenable, for it must be acknowledged, that we have had more small-pox after vaccination during the past two or three years, than after variolation in all the period since its earliest history.

Why small-pox should rarely attack the same individual more than once, is of as different solution, as how it happens a second time, yet we have been so long familiarized with the former characteristic that it has ceased to surprise or lead to inquiry, and we now exhibit as much astonishment at the latter as though we had never seen a patient labouring under a secondary visitation of any other form of disease. This subject remains untouched within its secret citadel of obscurity and darkness, even temerity herself has not yet ventured to explore its penetralia and scarcely to approach its vestibule. It is a question so intimately connected with the extensive science of œtiology, that even if we do possess a glimmering of the truth, it is impossible to embody sufficient evidence, without occupying too much ground; hence it shall be reserved for some more suitable occasion, content to drop such hints as may enable us to form an estimate of the facts we shall notice.

Every part of the animal machine, is capable of being thrown into different degress of disorder, under which, parts may be destroyed or their functions impaired, and yet in time, they may be regenerated or restored. Thus, cut off, or tie up an artery or a nerve, and we destroy or impair the parts they nourished, still the injury may not be permanent; for the impediment may be removed, and the functions restored, or supplied by the vicarious offices of neighbouring organs. Morbid le-

sions are common and familiar. Some generate a greater liability to similar action, whilst others tend to the destruction of all such susceptibility. The alterations of structure, thus made, are very different in different persons, and hence the greater or lesser periods required for restoration to the original functional power. In some the change is trivial and transient, in others total and permanent. In some it is imperceptible, in others very obvious. Disease being a deviation from natural or healthy action, must necessarily increase, decrease, or alter the capability of action of the organs. Whatever may be the kind or degree of unnatural action, it in time impairs the power of the parts for longer continuance; otherwise a system once thrown into morbid action must have it perpetuated and render recovery from any disease, impossible.

It may be affirmed of all those diseases which attack but once, that in that single invasion they operate a change of the functional structure of some parts, so entirely destructive, that they can never be restored to a condition to take on a like action again. It may be predicated of all those diseases (monopathogenous) that they essentially consist in a peculiar secretion by which a specific lymph or other matter more or less attenuate or perhaps even gasseous, is generated, in whose elaboration the organs are so completely destroyed that they can never again be repaired. In some, this process of disorganization is not manifest, whilst in others it is quite palpable. In small-pox, there is an evident determination to the surface, where the fever expends itself in the secretion of a specific virus, in which act, the parts, like some animals, deposit their ova and die. This act of secretion is not equally destructive in all cases; in some there may remain a sufficiency of the original conformation, to become the germs of reproduction, and in process of time the restoration of parts may be such as to enable them to undergo similar action, and thus become again liable to the same disease. And whenever such a revolution is effected, and the structure is brought back to its primitive state, we may rationally expect it to perform its orginal functions.

It is inferred that the vaccine disease operates such a change on the system, as precludes the possibility of variolous action, and that in many persons, whether from native predisposition, the slightness of the alteration, or injury of parts, or from whatever cause, the parts are again restored, and the liability to the disease re-established. That some alteration of structure is effected by the different grades of small-pox and vaccine disease, is evinced in the traces or scars, and by the same wit-

nesses we may ascertain when a predisposition to either form of the disease, is regenerated.

My attention was first solicitously aroused to the occurrence of small-pox after vaccination, in April 1818. Travellers, who had recently undergone the disease in some of the Atlantic cities, propagated it into the interior of the country, and in the latter end of March and beginning of April, it made its appearance in the district in which I then resided. When first informed, that several persons had taken small-pox, who had been previously vaccinated, I gave no credit to the report; and even after being reluctantly convinced of its truth, was still inclined to attribute it to spurious vaccination. This incertitude and incredulity continued, until called to see the disease in persons whom I had myself vaccinated, and of whose authenticity there remained no doubt, from my recollection and records of their cases. Being at last compelled to admit that, vaccination was not an invariable prophylactic, my next inquiry was, as to the extent of its power. I continued to vaccinate and revaccinate, and then test the efficacy of my practice, by inoculation with the virus of small-pox, and subjecting them to exposure to those suffering under the disease. By these means, I demonstrated, that recent vaccination invariably afforded perfect security. All that now remained, was, to determine the duration of this period, of security or exemption. On this point nothing certain could be readily obtained, and I was about to abandon the inquiry as one which must require the observation and experience of at least a century to determine, when my attention was rivetted to the fact, that the scars of those who had taken either form of disease presented a different aspect, from those who had resisted every attempt at communication. Reiterated examinations were instituted, and the results were entirely satisfactory. The characteristic features at that time noted, have been constantly borne in mind ever since, and the hope which then arose, that I had discovered the evidence of the state of exemption from small-pox, and the signs by which to determine the cessation of the prophylactic virtues of vaccination, has been realized and confirmed by ten years subsequent experience.

In all those who became affected with variola or genuine vaccina after prior vaccination, the scars of the first vaccination presented a regular smooth white surface, but those who resisted the infection of either disease, exhibited vaccine scars distinctly marked with annular dots or points of a dark red colour, which on close inspection, seemed like narrow deep putei or little wells, walled around with a dark and dense membrane

and only covered at top by a thin transparent cuticle. These dots are not uniform in their arrangement. In some instances they are irregularly sprinkled over the whole disc of the scar, but their most ordinary, and I presume, best phasis, is the annular indentation immediately within the periphery of the scar, and having a central radiating point of astral aspect. In fact, all the putei, dots or points have more or less of this appearance, somewhat resembling the malten cross. Thus

Describe a circle of the diameter of an ordinary scar to represent the margin, immediately within the circle prick down the crossed points, and in the centre place a single point with several minute radiations, and you will have a tolerable representation of the genuine vaccine tracing. On vague inspection there seems a general resemblance between the vaccine and variolous scar, but on more close examination there is found a marked dissimilarity. The variolous has traces of regular radiation, without any decided punctuation. Thus

In a large majority of cases the punctuation of the vaccine cicatrix has remained distinct during all the time elapsed since observation commenced, and in all such cases where experiment has been made, there has been an obstinate refusal to take or contract either disease.

In some, however, the signature suffers erasure, and then they are again obnoxious. This erasure of the points takes place by a gradual obliteration or fading of all the points, a sudden obscuration or the disappearance of point after point until the whole disc is cleared.

Whilst the smallest segment of the circle, or a solitary distinct and certain point remains visible there is no danger, but whenever the scar loses every characteristic trait no time should be lost, for there is no longer security, and vaccination should be promptly performed.

Owing to irritation, either by design or accident, during the progress of the vaccine disease, the scar often undergoes some modification, which gives rise to diversity of appearance in the general figure, or in the number and distribution of the dots, but it matters not how they may vary in other respects, if there is one distinctly characteristic point it is a sufficient guarantee against varioloid and vaccina. There may be cases where so much mechanical violence has been inflicted during vesiccation or desquamation, as to have induced phlegmonous inflammation or ulceration to such extent as to deprive the cicatrix of its points. Such cases must remain obscure, and

there is nothing left us but to test them occasionally by inoculation.

When the points are becoming obscure, but still discernable, perhaps caution might prompt experiment, and during a season of alarm such precaution may be commendable: still in most cases, whilst there remains a vestige of the vaccine character, the subject will not receive the real disease. It is a well known fact that inflammation will often follow the puncture of the lancet or vaccinator, and different degrees of pustulation, &c. ensue, but genuine vaccina or small pox, never. The scars of all spurious pustules want the points.

It is possible, that varioloid or mild small-pox may take place before all traces have been exterminated; but before such occurrence the system generally must have overcome the greater part of the ravages of the former disease; and if such cases were to present themselves, might we not rather suspect them to be varicella or chicken-pox? I have seen many cases of the latter dignified by the more ruthless name of the former, particularly by young practitioners, whose experience did not reach back to the time when small-pox was more generally prevalent.

Believing small-pox, varioloid and vaccine to be the same disease under modified gradations, and that the confluent small-pox and vaccine are the two extremes of the scale, like many other extremes, they approximate in this point, that they afford the least security against re-infection. Most of the cases of secondary small-pox have occurred in those who had primarily the confluent form, and it is most indubitably true, that more cases of small-pox have arisen after vaccination than after all the other stages, and therefore that it is the least prophylactic. It, happily, is so very mild and trifling compared with the others, that we may well submit to its repetition time after time if necessary, rather than be subjected to a single visitation of either of the others; and as we now possess, if the foregoing observations are correct, a certain criterion to determine the necessity and time when re-vaccination must be undergone, and thus have in our power a complete antidote against the poison of this most awfully loathsome enemy.

The duration of these marks of security are very indefinite; some wear as well after many years as in the first months, others fade in a few years, perhaps months, others, after a long endurance, sink suddenly into obscurity. This diversity is perhaps dependant on natural or accidental predisposition. At present our knowledge of temperaments or predispositions is too limited to enable us to prognosticate the durability of this

state of exemption, and hence arises the necessity for frequent examinations of scars, to ascertain when the signatures are effaced, and the imperative duty of retouching them by re-vaccination. This is especially the duty of the family physician, and it will be his fault if any of his friends shall hereafter suffer from either varioloid or small-pox.

ART. V.—*Description of a method of treating fractured thigh bone, by* JOSIAH GOODHUE. M. D. of Hadley, Mass. President of the Berkshire Medical Institution.

A method of confining a broken thigh, so as to prevent lameness and deformity, has been a great desideratum with surgeons in all ages. And the imperfection of every method hitherto proposed and applied, still renders further investigation very desirable, and highly important, as it relates to the comfort and usefulness of every person, who may meet with this misfortune.

I have practised surgery almost fifty years; the first twenty was in a new country, where by the badness of the roads, and the felling of trees to clear the land, such accidents were very common. My first method was, to place the patient on his back with his leg in a box, with short splints upon the thigh. Some patients did well, and others halted more or less through life. I always approached a broken thigh with diffidence and uncertainty, with regard to the future event. As soon as I read *Percival Pott*, I, with great anticipation of success, put his method in practice, but was disappointed in almost every case. I then used the long splints with a variety of success, under a variety of modifications. Thus I got along for the first thirty years, sometimes making good limbs, but often leaving them more or less deformed. My uncertainty of success was such that it was ever unpleasant to me, to be called to a case.

As far as I have been acquainted with the practice of my brethren, the result has been similar to my own. About twenty years ago, after much consideration, I adopted the method I am about to describe.

As much inconvenience, and in many cases no small degree of irritation and pain, attend the method of carrying the patient from the place where the accident happens, to the room where he is to be confined; I shall commence what I have to say upon the fractured thigh, by describing my method of conveyance. The difficulties attending putting a patient up-

on a horse, in a cart, or any other carriage* are too obvious to be mentioned; and the making a bier is attended with too much delay. When a broken thigh happens in my neighbourhood, I advise to take a board eighteen inches wide, or wider, seven feet long, with several pillows and blankets, and two sticks, like sledstakes, five or six feet long, the board is to be placed upon the ground, with a stick placed under each end, the blankets and pillows are to be properly adjusted upon the board, and the patient to be taken up with the greatest care and placed upon them. In this situation four strong men of about equal height, will carry a man a mile with ease. The patient in this way may be carried through doors, to his room, and placed upon two chairs, without any disturbance to the fractured limb. Whilst these things are going on abroad let boards be sawn a suitable length to drop in upon the bedcord, between the head and foot pieces of the bedstead, on which lay a good straw bed or mattress and a blanket. Then take two common pillows, and after removing half of the feathers, lay them lengthwise upon the bed, in a position to receive the leg and thigh. Prepare the tail bandage, not quite as wide as the thigh is long, and place it properly upon the pillow on which the thigh is to rest. Place three pieces of narrow tape under each pillow; let a piece of planed board two inches and a half wide, be nailed to the outside of the footpiece of the bedstead, so that the top of it will be two inches higher, than the toes of the patient, when the foot lies upon the heel. Let a large silk handkerchief be doubled about three inches wide, and wound closely around the ancle near the foot, and sown with strong thread so that it will not give way in any part. Now after the board upon which the patient rests is placed on the side of the bed, let the surgeon take hold of the broken limb, with other assistance sufficient to lay the patient upon his back, his thigh and leg resting on the pillows. Let two pieces of strong wide tape be sewed to the handkerchief, one

*It may be thought ridiculous, that I should even mention carrying a patient with a broken thigh upon a horse, but I have certainly seen one instance, where a man rode four miles with his leg swinging and dangling, with a compound fracture. A most melancholy accident recently occurred, not more than twenty miles from this place. A surgeon in company with another gentleman was driving a chaise, which was overset, and occasioned a compound dislocation of the gentleman's ancle, with a fracture of the fibula. While assistants were procuring a wagon to convey the man to a house, the surgeon reduced the dislocation. The wagon came and he was placed in it. In passing down a hill the horse ran, tore the carriage in pieces, misplaced the bones again, and broke the other leg. The limb first wounded, was amputated three days afterwards; and to complete the horrors of the case, the gentleman died the second day after the operation. It is highly probable the unfortunate gentleman lost his life, by not adopting some such simple method of conveyance, as I have proposed.

on the outside and the other on the inside of the ancle, the tape ought to be a foot and a half long.

The surgeon will now be prepared to extend the limb and adjust the bone, which ought to be done with great moderation and tenderness, as I know from long experience, that violence is quite unnecessary. Then let a strong man stand at the head of the bed, and place his hands with firmness under the patient's arms, so that the body may not be drawn down when the extension is made. I should advise the surgeon to make the first extension in a very slow, firm, and gradual manner, he will find that by continuing the extension for two or three minutes, he will gain more, than by ten times the force applied with sudden violence. I would now give the limb into the hands of a trusty assistant, and place my hands upon the fracture. As it is impossible to give directions with regard to the coaptation of the ends of the bone, I shall leave that part of the operation to the ingenuity of the operator, he bearing in mind that hard pinching is never necessary. The tapes attached to the handkerchief may now be tied with firmness round the footpiece. A double cloth may be wet with a solution of the sugar of lead or rum and water and applied to the thigh, the tail bandage being nicely, but not tightly folded. Then let the foot of the bed be raised, so as to place two bricks flatwise, under each post. The extention may now be discontinued. It will be seen that the patient lies upon a gently inclined plane, with his foot firmly fixed, which is all that is necessary (with constant care) to keep the bone in place. Splints of every kind in this way of proceeding, are entirely useless.

The patient ought to be confined to his bed forty days.

Bloodletting and a gentle *cathartic*, will generally be necessary within the first three days.

Whenever it is thought necessary, the pillows may be brought round the limb and tied with the narrow tapes. There are some inconveniences attending this mode of operating. There will be pain in the heel, which may be obviated by raising it, and altering the position of what is under it. The ancle will be in pain from the constant pressure of the handkerchief. To remedy this it may be removed and placed above or below the knee for a day or two, and then be returned to the ancle. I wish to be believed, when I say that by this method I have never left a limb greatly deformed. I have once had a case of a fractured thigh, and a compound fracture of the leg upon the same limb where no deformity followed. There may possibly occur some cases, where by the obliquity of the fracture the

limb may be shorter than the other, but the direction of it ought always to be good.

It will be necessary to place a block at the foot of the bed, and so far up that the sound foot of the patient may press against it, which will assist in sustaining a gradual extension of the limb.—I take this opportunity to make my sincere acknowledgments to Dr. *Luke Howe*, of *Jeffrey*, N. H. for his very polite and respectful mention of me, in his treatise upon the broken thigh, which he published in the N. E. Journal some years ago.

ART. VI.—*On the Tests of Prussic Acid.* By EDWARD TURNER, M. D. F. R. S. E., &c. Professor of Chemistry in the University of London, In a letter to the EDITORS.*

GENTLEMEN,

Having occasion a few weeks since to consult the essay of M. Lassaigne on the detection of the prussic or hydrocyanic acid in the body of animals poisoned with that substance, I was surprised at observing a chemical error, which, unless corrected, may give rise to serious mistakes. A short notice on this subject is the more necessary, as the essay in question has been inserted without comment in some of the British journals, and is therefore likely to be consulted by the medical jurist in this country. I beg leave, therefore, to offer a few remarks, intended to correct the mistake into which M. Lassaigne has inadvertently fallen, and render his otherwise valuable essay a safe guide to the medical public.

In the report of M. Lassaigne's essay by MM. Thenard, Magendie, and Vauquelin, published in the *Annales de Chimie, et de Physique*, xxvii, 200, three tests are specified,—nitrate of silver, sulphate of copper, and *per*sulphate of iron. Nitrate of silver yields with hydrocyanic acid a curdy white precipitate, the cyanuret of silver, which is so similar to the chloride of silver, that it is distinguished from it with difficulty. On this account M. Lassaigne properly objects to its employment. In employing the second test, a few drops of sulphate of copper are mixed with hydrocyanic acid, a slight excess of pure potash is added, and the blue precipitate redissolved by the least possible excess of muriatic acid. The cyanuret of copper, formed by the action of the precipitated oxide on hydrocyanic acid, then comes into view, and subsides in flocks of a nearly

* Edin. Med. and Snr. Journal for Oct. 1828.

white colour to the bottom of the vessel. The third test is used in a nearly similar manner. The persulphate is mixed with hydrocyanic acid, the peroxide thrown down by means of a slight excess of pure potash, and the precipitate redissolved by an excess of sulphuric acid. Prussian blue then makes its appearance either instantly, or after an interval of twelve or even eighteen hours, when the hydrocyanic acid is in very minute quantity. The same tests are referred to by MM. Leuret and Lassaigne in their joint essay in the Journal de Chimie Médicale, &c. No. xii, p. 561.

The observations of M. Lassaigne, in reference to the sulphate of copper, are quite exact; but the *persulphate* of iron is not suited to the pupose for which it was proposed. The precipitated peroxide of iron, as was long since proved by Scheele and Proust, does not yield Prussian blue with hydrocyanic acid. In my experiments with a strong solution of prussic acid there was not the least trace of blue, not even after an interval of twenty-four hours. It is easy to be satisfied of this fact by operating in the following manner;—To a concentrated hot solution of green vitriol add successive portions of nitric acid, until the dark, nearly black, tint at first produced is converted into a red. Evaporate the solution to perfect dryness, dissolve the persulphate in water, and filter. On mixing a little of this persulphate with prussic acid and solution of pure potash, as above described, and dissolving the precipitate with sulphuric acid, the solution will present the yellow colour of the salt of iron without any Prussian blue being generated.

To the formation of this pigment by means of prussic acid, the presence of protoxide of iron is requisite. The protoxide appears to act by converting the prussic into fero-prussic acid; and for this purpose a very minute quantity suffices. Accordingly, if persulphate of iron should contain a little protosulphate, it will detect the presence of prussic acid; or if in the potash or prussic acid any impurity happens to be present, such as traces of sulphuretted hydrogen, which may convert a little of the peroxide into protoxide of iron, Prussian blue would also then be produced. Prussic acid itself appears to effect this change slowly; for when the peroxide is precipitated in contact with that acid, and then redissolved, the solution, after an interval of two or three days, acquires a faint blue tint; and the same appearance takes place in twenty-four hours, if the precipitated oxide has been previously in contact for a few days with prussic acid. But these changes, though chemically interesting, are too slow and imperfect, even with strong solutions of prussic acid, to be practically used as a test. These observations will explain how the persulphate of iron

happens to have been recommended as a test of prussic acid, though in fact it is not so.

The proper test of prussic acid is the common *proto*sulphate of iron, the green vitriol of commerce. If recently prepared, the precipitate left after dissolving the excess of oxide will at first be green, and become blue after exposure for a few minutes to the air. But if the solution has been previously kept for some hours in an open vessel, so that it may contain both oxides, perfect Prussian blue will be formed at once. The protosulphate of iron, even in cases of judicial inquiry, is the only chemical re-agent required. M. Lassaigne recommends sulphate of copper as a re-agent twice as delicate as persulphate of iron,—an opinion which is quite correct. But it is considerably less delicate than the protosulphate, and besides, the white tint of the cyanuret of copper is far less characteristic than the rare and well-marked colour of Prussian blue. Sulphate of copper, as a test of prussic acid, is therefore unnecessary. These remarks render it probable, that, in animals killed by prussic acid, the poison may be detected at longer periods after death than was observed in the experiments of MM. Leuret and Lassaigne.—I have the honour to be, Gentlemen, your most obedient servant,

EDWARD TURNER.

London, August 13, 1828.

REVIEW.

Quidquid venerit obviam, loquamur
Morosa sine cogitatione.—*Martial.*

ART. I.—*A Practical Treatise on the Typhus, or Adynamic Fever.* By JNO. BURNE, M. D., Licentiate of the Royal College of Physicians of London, &c. and formerly President of the Royal Medical Society of Edinburgh. *Nam ne agricolam quidem aut gubernatorem disputatione, sed usu fieri.* CELSUS. (London, 1828. pp. 248. Continued from p. 416, No. 44.)

WE proceed to the conclusion of our review of this interesting monograph.

CHAP. V.—*The causes which retard convalescence or prevent recovery* are chiefly these: "old age; great inanition; lesion of an organ prior to an attack of the fever; the too copious abstraction of blood, or copious hæmorrhage from the bowels; organic lesion occurring during the course of the fever, as from accompanying local inflammation, or from the effusion of blood into the parenchyma of the lungs; an excessive diarrhœa from irritation, sub-acute inflammation, or ulceration of the muciparous glands, and mucous lining of the intestinal canal; and, lastly, irritation of the stomach and liver, with bilious vomiting and mucous dejections.

"In old age, the vigour of life is past, and, notwithstanding the viscera are left in a sound state after the fever, the organs recover their functions slowly, and convalescence is necessarily delayed.

Sometimes the progress of amendment in the interval from the decline of fever to convalescence is so very slow, that it excites a suspicion of latent mischief. The adynamic character has subsided, the eye bright, skin clear, and tongue clean,

and the appetite returning. Still the patient is restless; there is a stare in the eye and watchfulness during the night, or disturbed and unrefreshing sleep. Recovery is in such cases tedious, but eventual, if we wait patiently, and do not harass by attempts to accelerate convalescence.

Sometimes when the fever is on the decline, watching with a peculiar staring, brilliant, and observant eye, occurs; the head is frequently raised as if to listen, and there is mild delirium. Pulse frequent (120 pulsations;) stroke rather open and vibrating, short and compressible. This state occurs in those who have lost much blood, and arises from that cause. It should not be mistaken for sub-acute inflammation of the brain.

Organic lesions, whether occurring during the course of the fever, or prior to the attack, very much retard convalescence, as a febricula will recur every evening for days and weeks, after the adynamic fever subsides. If relapse results from a recurrence of inflammation in the diseased organ or from excess in diet, it is very apt to be fatal. When the ochre-coloured diarrhœa is excessive, it delays convalescence. The last cause remarked by Dr. B. is *an irritation of the liver and stomach, with bilious vomiting and mucous dejections.* Of which he has met with but few cases. Three are mentioned, one died, the other two recovered; the first, after a very protracted and dangerous illness, the last in ten days after the subsidence of the adynamic fever. It was observed that this vomiting was frequently preceded by a cough, and as the patients were of consumptive families, and were of that aspect themselves, our author thought it probable there was slow tubercular disease in the lungs, with which the liver sympathized. This was confirmed on dissection of the patient who died.

Convalescence, under favourable circumstances, is more rapid and complete after this fever than almost any other disease, which is accounted for on the principle, that the young and robust being most obnoxious to this affection, their systems soon rally from natural vigour of constitution, especially as there is generally no organic lesion left behind on the subsidence of the adynamic fever. In less favourable circumstances, the period of convalescence is uncertain, being influenced by organic lesions if they have occurred, by diet in quantity and quality, and the purity or impurity of the air from locality, or ventilation. Convalescents are very susceptible of cold and consequent inflammation. A fatal instance is given of rheumatic inflammation of the

heart, induced by exposure to currents of air and a damp atmosphere.

Relapse is more liable to occur after adynamic fever than any other disease, and this is to be accounted for by the exhausted state in which the powers of the system are left. As there are seldom any organic lesions, the digestive and other functions are restored remarkably quick; the appetite is often voracious, and exceeds the digestive powers, and hence one of the most frequent causes of relapse. The patient sometimes cannot restrain himself; the stomach is overloaded, oppressed, or overwhelmed, and relapse ensues. If the adynamic fever was severe, and the convalescent very weak, the patient sinks into an alarming prostration; he lies on the back, powerless; the delirium returns, the secretions are arrested, the tongue becomes dry and black; sordes collects on the teeth; the skin, dry and of unequal temperature; and the patient sinks in three or four days. In some instances, he will shout or halloo for a day or two, scream for another day, and lastly sink into insensibility.

Relapse is thought to occur more readily in those who get up soon, and continue up after eating, than in those who take their meal in bed, the recumbent posture favouring digestion. Relapse is sometimes produced by walking in the open air too soon; perspiration is produced by the exercise, which subjects them to cold and its consequences. Another cause of relapse is mental emotion.

Chap. VI. *The primary cause* of this disease is conceived by our author not to be single but manifold. "There are various agents, which bring about a condition of the blood and of the nervous system, at one time, favourable to the developement of this fever, at another time, sufficient for that developement: and these agents, therefore, must be looked upon as different primary causes." It is generally agreed that the primary cause is mostly derived from the physical agent *contaminated air*, whether from contagion or human effluvia; but there is another agent, the habitual excessive use of fermented liquors. Our author declines entering on the disputed question of contagion.

The accidental or exciting cause of this fever is usually cold, arising from exposure to winds or currents of air, to rain or damp. Moral agents, as grief or fear, may also prove exciting causes. "The attack from fear is sudden, from grief gradual; but the fever in either instance is violent, and the case desperate." In the greater number of cases of this disease, it is brought about without any accidental or exciting

cause. The production of the fever is spontaneous, and the developement is slow and progressive, requiring days and weeks; whereas, when it occurs through the intervention of an accidental cause, it is fully formed in a few hours.

It is probable that many would escape the adynamic fever, if they escaped an accidental cause; it being taken for granted by Dr. B. that no accidental cause can produce this disease, unless the system is predisposed by the influence of the primary cause, a contaminated atmosphere.

The diagnosis may always be formed without the fear of mistake. "The peculiar dingy and dusky colour of the face; the bluish flush upon the cheek; the stupid countenance: the unobservant, drooping, and often glassy eye; the dulness of hearing; the slow interrupted speech; the diminished sensibility to external impressions; and, indeed, the blunted state of all the senses; together with the red-tipped, and dirty coated tongue; and the very great prostration of strength, are all distinctive signs, and point out unequivocally the nature of the disease."

There are only two diseases with which this disease may be confounded, namely: delirium tremens, and a febrile state accompanying the latter stages of some diseases of the urinary organs. Delirium tremens may be known by the excessive tremor of the muscles; the short and breathless respiration; the vacant, unsteady, and staring roll of the eye, and extreme constant agitation.

The presence of the local disease will designate the febrile state, which accompanies affections of the urinary organs.

There is an aspect of the face which attends some diseases of the lungs, which may be confounded with that in adynamic fever; but though the colour of the skin corresponds very nearly, yet the eye has not lost its lustre, nor the face its animation.

The sudden manner of attack resembles apoplexy. There is pressure on the brain in both cases, yet the history of the patient before the attack, the adynamic signs, as prostration of strength, dirty coated tongue and dusky skin, with a quick and feeble, in place of a slow labouring pulse, will enable us to distinguish between them. The adynamic fever also attacks the young, and apoplexy those past the meridian of life.

The prognosis, on a general principle, is favourable. Owing to the advances of civilization, it is now not only a rare thing, but almost unknown in England, to see the inhabitants of a street or town swept off, as formerly, by a malignant fever; so moderated is the character of adynamic fever.

The following signs may be deemed almost critical, and always portend well. They are a re-establishment of the secretions; the sordes are replaced by healthy mucus; the coating of the tongue loosens, and the skin is less harsh; the lowering of the pulse, if it has been quick, and a diminution of the caliber of the artery from increased tonicity; an abatement of delirium and restlessness; a tranquil, continued, or a profound, commonly called "dead sleep," lasting at times twenty-four hours; the voluntary change of posture from the back to the side; the desire of food, and return of taste; the ochre-coloured diarrhœa, followed by a subsidence of flatulent distention, and voluntary succeeding to involuntary dejections.

Deafness, though an unimportant criterion, is an index of the subsidence of excitement. In the congestive state it is favourable for the languid circulation to become vigorous, warmth of the skin to increase, and blueness to diminish. If the congestive state continues, it is imminently dangerous. The unfavourable signs arise from prominent cerebral, pulmonary or intestinal disorder, or from obstinate and excessive general functional derangement, without prominent disease of any organ. When the brain affection indicates danger, it is at the height of the fever. The signs of danger are great restlessness, great and continued muscular exertion, with excited circulation, heat of head and haggard visage; and, if succeeded by coma, they are fatal.

When the pulmonary disease is of evil import, it is at the decline of the fever. The signs are short breath, cough, blueness of the face and continued loss of strength, notwithstanding the capacity to take considerable support. When there is danger from the intestinal derangement, it happens at two periods, and is of two kinds; one after the fever has existed some time, but is still urgent; the other on its decline, when the patient approaches convalescence.

That which happens at the first period is the black offensive diarrhœa, with tympanitic abdomen, &c.

That which occurs at the second period is the ochre-coloured diarrhœa unrestrained, preventing convalescence and wearing out the patient. This diarrhœa is in no ways dangerous in itself, but becomes highly so if aggravated by maltreatment.

An attack of inflammation in any organ during convalescence is very apt to prove fatal.

Chap. VII.—*The pathology of adynamic fever.*—In post mortem examinations of those who have died of this disease,

there are certain morbid appearances pretty constantly observed in the brain and intestinal canal, which may be said to be peculiar to this fever. Other organic changes are occasionally found in the bronchial membrane, in the lungs, and in the heart, arteries, and veins; but as they are not constant, they must be accidental, and not peculiar.

The bodies of patients in this disease seldom grow stiff after death; the excessive prostration of the muscular power, preventing the last act of life, the contraction of all the muscles. The morbid appearances most commonly found in the brain, are a serous effusion between the arachnoid and pia mater, extending also to the ventricles, amounting to two or three drachms. The arachnoid and pia mater have the appearance of opacity produced by maceration in the serous fluid after death, which is partly deceptive; for if the membrane is punctured, so as to admit of the escape of the serum, the pia mater and arachnoid are left of nearly their natural tenuity and transparency. The substance of the brain is generally of a natural consistency, or one degree softer. The large veins and sinuses are very turgid with fluid black blood.

In the centrum ovale are seen numerous black bloody points. The blood-vessels of the pia mater are not minutely injected. The cut surface of the cineritious substance will frequently present a dull pink colour.

In a few cases there is decided opacity of the arachnoid from adventitious deposit, and the effused fluid is semi-opaque. In no instances has Dr. B. seen an adventitious layer of fibrine effused between the membranes. In many instances the arteries of the brain contained black fluid blood. The serous effusion is continued into the theca spinalis. Sometimes there is a much greater effusion into the ventricles, amounting to one or two ounces without an increased effusion under the arachnoid, and occasionally without this being present. In every case in which this more copious effusion has been discovered, the patient was afflicted by retention or suppression of the urine some days before death; during which there has arisen a fresh train of symptoms, as before described, superadded to those of the fever.

The serous effusion is imputed to congestion, and not inflammation, by our author. He observes, "the vascularity from inflammation is seated in the capillaries, and is so minute as to give to the inflamed surface an intense and universal redness, which leaves no trace of arborescent ramifications, nor any intervening portions free from vascularity.

"The vascularity of congestion is precisely similar to the vascularity of the brain in the adynamic fever; that is, it is confined to the small arteries and veins, and forms the arborescent vascularity, having the parts intervening between the ramifications free from preternatural vascularity."

The morbid appearances in the intestines are found in the lower portion of the ileum, in the cæcum, and cæcal extremity of the colon.

"They consist of irregular, red, elevated patches, which vary in extent and figure, being sometimes circular, sometimes oblong. When circular, they may be from the size of a split pea to half a crown; when oblong, from the size of a split horse-bean, to that having an extent of one, two, or three inches in length, by half an inch, or an inch, or more in breadth; and, now and then, they will occupy almost the whole circumference of the ileum at its termination.

"The number of these patches differs exceedingly, there being, in some cases, only one or two in the lower portion of the ileum; in other cases, they will be very numerous, and occupy two, or three, or four feet of the extreme ileum, the whole of the cæcum, and nearly the whole of the ascending colon. They are generally distinct.

"The situation of these patches is evident before the intestines are cut open; the parts they occupy being of a deep red, visible through the peritoneal coat, and palpable to the touch, on account of their density and thickness.

"The surface of these patches is smooth and shining, and rather unequal, having many slight, funnel-like depressions, and may be said to resemble a quilted garment. The funnel-like indentations or depressions, causing the unequal surface and quilted appearance, are the mouths of the mucous follicles, rendered evident by the elevation of the intervening mucous membrane.

"These red patches bear very much the appearance of spongy granulations, and have ordinarily been set down as ulcerations of the mucous membrane;* and, on looking at them cursorily, one would come at once to that conclusion. They, also, give to the affected portion of intestine a preternatural density and thickness; and the thickening tending inwards, may lead one to consider it a swollen state of the mucous membrane itself: but, by close examination, the thickening and increased density prove to be an adventitious deposit in the sub-mucous tissue; and this thickening of the sub-

"* This description was written three years ago."

mucous tissue elevates and stretches the mucous membrane, which stretching does away with its natural villous appearance, and makes the surface smooth and shining.

"That these red patches are not ulcerations, may at once be seen by stretching the diseased portion of the gut over the finger, and holding it between the eye and the light, when the surface will be found to be smooth, and free from any breach of continuity."

These red patches have mostly a defined edge as regards thickening, but the decline of the redness is more gradual. In the ileum these patches occupy the most depending convolutions, and the most depending part of these convolutions; and are, therefore, mostly situated opposite to the attachment of the mesentery. In the large intestines, their situation is not peculiar, excepting that they are rarely met with elsewhere, than in the cæcum and ascending colon. Their situation illustrates the manner of their production. Our author thinks they are not primitive, but the effect of irritation, excited by the lodgement of liquid putrid fæces. Where the fever has been urgent and protracted, ulcerations will be found on the surface of these patches; they may be distinguished by the excavations, cellular, dull, and yellowish, instead of smooth, shining, and red: these are the second organic change. In still more protracted cases they have been found to perforate the intestine. Where adynamic fever has declined, and convalescence established for some days; if the patient is destroyed by an accidental inflammation or a relapse, the mucous membrane of the intestines will not unfrequently be found in a simple state of ulceration; the red elevated patches having subsided.

Except where the attack of this fever is accompanied by diarrhœa or cholera, there is no evidence of primary disease in the intestinal canal; nor is this afforded until the fever is fully formed, and the prostration very great. This prostration extends to the muscles of organic life, for example, the intestines; here the peristaltic motion is incomplete, and the fæces and vitiated secretions are not expelled; these lodge in the most depending portions of the canal, and suffering decomposition, evolve a gas which causes the tympanitic belly; these putrid accumulations remaining, irritate and give rise to sub-acute inflammation; and thus is adventitious matter deposited in the sub-mucous tissue, which, together with the inflamed muciparous glands, forms the red elevated patches. These are to be considered, therefore, an effect, not a cause of adynamic fever.

Whenever their is much disease in the intestines, the mesenteric glands, which correspond to the diseased portions, are enlarged and reddish, especially when cut into, and when emaciation is great, they may be distinctly felt during life. They are very tender, and give much pain when pressed or handled. This enlargement is occasioned by the irritation extended from the diseased portion of intestinal canal.

The bronchial membrane is very generally found in a state of preternatural vascularity in the trachea and larger bronchia; its structure remains unaltered, and if examined closely, this vascularity will be found to be minutely arborescent. Adhering to the lining of the larger bronchia, and especially at the points of subdivision, there is generally a quantity of tenacious, viscid, inspissated mucus. The trachea and bronchia are occasionally filled with bloody froth.

Occasionally the bronchial membrane is found thickened, loose, and villous, which extends more or less to the minuter ramifications: here the secretions are muco-purulent, which is not peculiar to adynamic fever, but results from bronchitis, whether it occurs in connexion with adynamic fever, or independent of it. In some instances there are spots of ecchymosis beneath the bronchial membrane. The want of power incident to this disease, prevents the expulsion of the secretions from the bronchial membrane, and allows their accumulation; they become viscid by evaporation, and adhering to the sides of the trachea and bronchia, irritate the lining membrane, and occasion the cough so common in this fever; the susceptibility of the mucus membrane occasions it to be readily affected by the currents of air produced by ventilation, and this cough of irritation is thus converted into pulmonary catarrh. The ecchymoses are caused by effusion of blood into the sub-mucous tissue, and the bloody froth, by transudation, a short time previous to death.

The lungs are mostly more or less bulky, heavy, and incompletely collapsed. The anterior portions are pale, lateral reddish purple, and posterior a dark purple. Their natural structure not altered, being crepitant throughout, but gradually less, so as we advance to the posterior portions the quantity of blood in these several portions is in an inverse ratio to that of the air.

In some instances, circumscribed livid patches are discoverable in the posterior parts of the lungs, varying from half an inch to three or more inches in diameter, and extending to a greater or less depth into the substance of the lungs.

They are solid and uniform in substance, and abrupt in termination, contain no air, and present no pulmonic cellular structure, and are not materially affected in their structure by pressure, which only causes a little black sanious fluid to exude from the cut surface.

There are occasionally in the central portions of the lungs, black bloody circumscribed portions resembling the substance of the spleen, varying in size from a nutmeg to an orange, and are lacerable, and easily broken down.

All these appearances, except the induration from inflammation, result from congestion of blood, which during the urgency of fever exists in these organs; as the patient lies prostrate on his back for many days previous to dissolution, we must refer the greater congestion in the posterior parts to gravitation; hence respiration is carried on chiefly by the anterior portion of the lungs, which causes the air cells of this portion to be preternaturally dilated, approaching to what Laennec terms "emphysema."

The solid livid portions result from effusion of blood into the parchymatous tissue, some time before death, and are produced by excessive congestion, and the "dissolved" state of this fluid. They are hence found where the congestion is greatest.

The black bloody portions arise from the same cause as the livid ones, except that the effusion of blood has been more recent, taking place a short time before death.

Strongly marked *morbid changes in the heart* are of rare occurrence in the adynamic fever, though it be often found relaxed, flaccid, and soft: on one occasion it was found pale, flabby, and extremly lacerable.

Chap. VIII. Treats of the *rationale of the signs of the adynamic fever.* The prostration of the powers of the nervous system is a prominent feature of this disease, and is only to be imputed to an unfitness in the blood to support the functions of the brain, caused by inhaling a poisoned atmosphere, thereby preventing the salutary changes produced in this fluid by the respiration of pure air, or establishing in their place those of a morbid character.

A striking illustration is given by Dr. B. in a man who while in the taking-in room of Guy's Hospital, had great cerebral excitement, looking wild and vacant, and talking incoherently. His bed was situated between two open windows, on being placed here where he had plenty of cool fresh air, and drinking a pint of cool barley water, he fell in a few

minutes into a sound tranquil sleep, and awoke free from delirium.

Here the respiration of pure air rendered the blood more suitable to the healthy functions of the brain. And by an extension of this principle, might not the inhalation of oxygen gas be of eminent advantage in the treatment of adynamic fever?

The experiments of Magendie, who injected putrid fluid into the veins of dogs, and thereby produced all the phenomena of adynamic fever, prove that an impure state of the blood will produce this disease.

The unfit blood then being sent to the brain, will not support its healthy functions, the nervous energy is no longer supplied to the different organs in a sufficient degree to support their functions perfectly. Thus, in the organic life, respiration is rendered weak and slow, by the incapability of the muscles on which it depends, the vigour of the circulation is impaired from the impaired energy of the heart, and the complete evacuation of the intestines cannot be produced from deficient power in their muscular tunic. So also in the animal life, the same cause renders the senses dull, and the voluntary powers prostrate, and this muscular inactivity, together with the weak, slow respiration, and want of power in the heart, causes the slow venous circulation: hence, venous congestions, dusky skin, stupor, &c.

The *delirium* in this fever varies much in character and results from many causes. If attended with stupor it would seem to arise from cerebral excitement produced by the circulation of impure blood through the brain, together with defective arterial impulse, and slow venous circulation; this happens during the urgency of adynamic fever. It sometimes appears to depend merely on deficient natural pressure of the brain from defective arterial impulse. As occurs after the subsidence of the adynamic fever in those who have lost much blood, and the delirium here resembles that which follows uterine, or other hemorrhage, and is termed light-headed, there is neither stupor nor venous congestion, the skin is clear, the eye bright, the patient rather restless and watchful, and the heart's action quick and weak.

Sometimes it may depend on the circulation of unfit blood through the brain, together with increased action of the heart and arteries; here the delirium is active, and the patient displays much muscular power, is restless, and talks in a strong voice. If these cases prove fatal, it is here that signs of cerebral inflammation are found.

Chap. IX. Treats of *the state of the brain as compared with phenitis*, in which the author endeavours to prove that the opinion of Dr. Clutterbuck and his followers, who contend that the state of the brain in the adynamic fever, is a state of inflammation, on which they found their doctrine of the seat and nature of fever, is not correct; we shall not follow him in this comparison, but proceed to the conclusions of Dr. B. himself, respecting the seat and nature of this disease; these are contained in

Chap. X. *on the seat and nature of the adynamic fever.* To the query, where is the seat and what is the nature of the adynamic fever? He replies, "that the adynamic fever has no local seat:

"That its nature is a morbid condition of the blood, produced by the operation of the primary cause, the respiration of a contaminated or poisoned atmosphere:

"That this morbid blood, acting on the brain and nervous system, is of itself sufficient in very many instances, to bring about the very great derangement and imperfect performance of all the functions of the organic, and of the animal life; which great derangement and imperfect performance of all the functions, constitute the phenomena of the adynamic fever:

"That, in the other instances, this morbid condition of the blood, although not sufficient of itself to produce the development of the fever, generates a predisposition, which, being acted on by any accidental exciting cause, as cold, or mental emotion, causes the adynamic fever to be immediately developed:

"That the adynamic fever, which is spontaneously developed, is, for the most part, of a more grave adynamic character than that which is developed by the intervention of an accidental exciting cause:

"That the adynamic fever, which is developed by the intervention of an accidental exciting cause, is more apt to be accompanied with a local inflammation, than the adynamic fever which is spontaneously developed:

"That the derangement of the functions of the brain and nervous system, produced by the morbid condition of the blood, is, in some cases, aggravated by the operation of certain moral causes; as mental distress, or any violent mental emotion:

"That the derangement of the functions of the nervous system is of primary importance, and the derangement of the functions of the sanguiferous system of secondary importance in the adynamic fever: except, where the fever is ac-

companied with local inflammation, and then the sanguiferous system is prominently affected:

"That in all cases, whether accompanied or unaccompanied with local inflammation, the derangement of the functions of the brain and nervous system is a prominent and pronounced feature; and demands the especial attention of the practitioner:

"Lastly, that the adynamic fever, however induced, may or may not be accompanied by local inflammation of any organ or tissue of the body; and that the organs or tissues most prone to inflammation are the brain, the bronchial membrane, and the mucous lining, submucous tissue, and muciparous glands of the intestinal canal."

From this it appears that the author is no disciple of Broussais, and indeed in the foregoing part of the chapter he endeavours to refute the doctrine of the local seat of adynamic fever, whether referred to the brain, mucous membrane of the stomach and intestinal canal, or glandular structure of the intestines.

Chap XI. *Of the treatment of the adynamic fever.*—And first, of the remedial agents usually employed.

"*Emetics* are never required except where the attack occurred, without the intervention of an accidental cause, and then only at the period of the invasion." Ipecacuanha is to be preferred, as it vomits without much depressing the vital powers. It should be given in the dose of ten to twenty or twenty-four grains, according to the age of the patient.

As antimony depresses the vital powers and irritates the mucous membrane of the intestines, it is to be avoided both as an emetic and as a febrifuge.

Aperients of the milder, and least debilitating kind, should be selected, as the bowels are easily acted on at the commencement, and during the course of this fever, and are always disposed to irritation and diarrhœa. Rhubarb, castor oil, and senna with manna, are the best. The dose of rhubarb, from five to fifteen grains; of castor oil, from one drachm to half an ounce; of infus. sennæ, from a drachm to an ounce, with manna in proportion. The longer the disease, the less should be the dose.

Rhubarb is considered the most eligible of the aperients; its dose can be regulated to greater nicety; its operation is mild, effectual and certain, and not debilitating, nor does it leave the bowels disposed to diarrhœa; it is free from the objections which may be urged against senna and oil, and

its stomachic properties give a tone to the intestinal canal, which enables it to expel its gaseous and feculent contents, a great desideratum.

The neutral salts of every description are to be decidedly avoided, drastics are never required. Where it is requisite to give aperients in the latter stage of the disease, the operation is often succeeded by a dangerous collapse, in this case they should be given in conjunction with the stimulants.

Bark, which was formerly so much used, and is now interdicted by many, is believed by our author to be as serviceable in arresting the formation of the adynamic fever, as it is in arresting the progress of an ague; "and it may be most advantageously employed when the disease has been for some time on the decline, and distinct remissions occur; and, also, during the early stages of convalescence, particularly in hospital patients, who have always to contend, more or less, with an impure air.

"There was a signal instance of its utility in Guy's Hospital, in a man who had recovered from the adynamic fever, so far as to be on the verge of convalescence; but here improvement stopped, and he remained seven or eight days exactly in the same state, unable to advance one step more towards recovery. His physician, very judiciously, prescribed the decoction of bark with acid, and it was remarkable to observe the immediate improvement."

The use of bark is not limited to the periods of the formation, decline, and convalescence, but may be administered with advantage in the last stage of protracted cases, where there is extreme prostration, black dry tongue, tympanitic belly, &c.

Bark may be given in all its usual forms and doses. The powder, or the sulph. quinine, is however preferred by our author to arrest the fever in its formation; and the decoction as convalescence approaches.

The *dose* of decoction is from one to two ounces, with a drachm of compound tincture; of the powder from a scruple to half a drachm; and of the sulph. quinine, two to four grains if given to arrest the formation of the fever, and from half a grain to two grains if given at the decline, or in convalescence.

"*Cold affusion* is, when employed with proper precaution, safe and beneficial; it may be applied by means of a shower bath; but a simple method is to place the patient in a tub, either sitting or standing, and let him be supported and kept steady by two assistants; a third assistant stands on a chair,

and pours one or two gallons of cold water, in a large stream, upon the head. After which, the patient is to be rubbed dry, and placed between blankets as quickly as possible, and care taken that the feet, if cold, be made warm. The great shock is very apt to make the patient struggle, of which the assistants should be apprized, that they may guard against it.

"The power of cold affusion is best seen where the attack is gradual, and commences in the evening, with a considerable febrile accession, which recurs about the same hour, or an hour earlier every day." At any period of the disease and in all cases unattended with local inflammation, it may be advantageously employed whenever there is burning heat of the surface; and especially where the skin is dry, harsh, and contracted, and the prostration great. When the preternatural temperature is only partial, affusion would be prejudicial, and ablution is to be resorted to; the hot surface may be sponged frequently through the day with vinegar and water. If the skin is in a prespirable state, neither are admissible.

Ventilation is of the utmost importance. "Be the patient poor or rich, the first thing to be done is to secure him a good supply of pure air." Our author has repeatedly seen patients begin to improve without the aid of medicine as soon as they left the foul atmosphere of their own houses. His directions in relation to the subject of ventilation are worthy of notice, but we must dispense with them for more important matter.

Febrifuges are required throughout the whole course of this fever. The object is to diminish heat of skin by restoring the secretions, and at the same time not irritate the intestinal canal, and the most simple and mild salines are to be selected: as liq. ammo. acetat.; citrate of potass. and the nit. of potass.

Liq. ammon. acet. is to be preferred, but all are individually eligible under certain circumstances. Citrate of potass. prepared with fresh lemon juice, and given effervescing is very refreshing and beneficial, and is most applicable to those states in which the prostration of strength is very great, and the heat of skin not urgent. Nit. potass. is an excellent febrifuge, and the opinion of Dr. B. is that its value is underrated. It is the most efficacious febrifuge for children. The dose (for adults) from five to twelve grains. Antimony is inadmissible, from its debilitating qualities.

Blood-letting demands the utmost discretion when we resort to it in adynamic fever. It is contra-indicated by the

prostrate condition of the nervous system, and the degree of this will serve mostly to direct our judgment. The greater the prostration, the less freely must blood be drawn.

This prostrate condition is at variance with inflammatory action, tending to keep it down, preventing vehement inflammation to proceed while the adynamic fever is urgent. The objects of venesection are, to shorten the course of the adynamic fever; to diminish any general inordinate action of the sanguiferous system, which, if left to itself, would reduce the patient more than moderate bleeding, or might lead to inflammation; to protect any one or more organs from the ravages of inflammation, which may occur at the attack, or during the course of the fever. The power and advantages of blood-letting is best seen in cases where the way of attack is through the intervention of an accidental cause, as cold, where the development of the fever is sudden; in many of these cases where there is a greatly increased action of the heart and arteries, attended with local inflammation, and but slight depression of the nervous system, blood-letting is highly serviceable, and will effectually cut short the fever. It should, however, not be forgotten, that the fever is adynamic in its nature, and that the bleedings should not be too large, or too frequent, but should be regulated by the strength of the pulse, and the effect produced on it, and the other symptoms.

In those cases where the fever is developed slowly and spontaneously, bleeding cannot cut short the disease. Under these circumstances, blood should be drawn with great caution and sparingly, it should not exceed six or eight ounces.

"In all the affections of the brain, the quantity of blood to be abstracted should be regulated by the strength of the pulse and the muscular power and exertions of the patient." These are a safe criterion, but noisy delirium, with shouts and screams, is alone no indication for blood-letting; and may often be appeased by opium and hyocyamus."

As a general rule cupping or leeching is preferable to venesection, as it is less debilitating. Thus, the brain is often relieved by abstracting two, three, or four ounces from behind the ear. The former operation, (cupping) is also preferable to the latter, "because leeches diminish the action of the heart and arteries in an extraordinary degree." Dr. B. ridicules the statements that have been made, that in typhus with phrenitis, more than two hundred ounces of blood have been drawn. Blood-letting is not confined to the outset of the fever, but may be practised wherever there is increased

action of the heart and arteries with head-ache and urgent febrile symptoms, blood may be taken away moderately, whether these signs happen on the second or third day or at any later period." Great relief was witnessed from venesection as late as the fourteenth day, when the symptoms had not been sufficiently urgent, to demand it before that time.

At whatever period, inflammation of an organ may occur, blood must be drawn to subdue it. Dr. B. remarks the extreme difficulty of abstracting blood from adynamic fever patients by cupping, which is owing to a deficient determination of blood to the surface, from want of power in the heart. "It generally occupies the cupper, as much time to cup one fever patient, as to cup two patients affected with any other disease."

Mercury in all its forms internally administered, irritates and relaxes the bowels more or less, and hence this remedy is contraindicated a priori on account of a tendency to disease of the mucous membrane.

Calomel and rhubarb forms a good aperient, at the commencement of the disease when the bowels are sluggish, but at any later period it is no way eligible. Dr. B. does not deny that benefit does not frequently accrue from the internal use of mercury; it is he believes often very serviceable, but he prefers the mode of introducing it into the system *ab externo* in order to bring about the return of the secretions, for which purpose this method is equally applicable. There are however individual instances in which the internal use of mercury may be advantageous as where the case is slight and the fever runs its course without any signs of intestinal irritation; and where the bowels continue uniformly sluggish, the dejections dark and offensive, while the belly is nearly or entirely free from flatulent distention. Here the Pill hydrar. and the Hydrar. cum creta, do good. But whenever the belly is tympanitic, the irritation which accompanies it, is increased by even the mild preparations of mercury.

"Dr. B. observes that one of the characteristic conditions of this fever, most difficult to combat, and most desirable to relieve, is the diminution or suspension of the secretions; and the power of mercurial friction to restore the secretion, exceeds all other remedies and is indeed very remarkable."

"The averaged quantity to be rubbed in, is half a drachm of the Ungt. hyd. fort. twice a day."

Opium and *Hyosciamus*, are of great service where there is cerebral excitement, and protracted ochre-coloured diarrhœa.

When there is noisy delirium, wakefulness, and restlessness, with an accelerated and easily compressible pulse, hyosciamus or opium may be given, whatever be the state of the other symptoms, and will be found valuable remedies. They will tranquilize the patient and frequently procure sleep.

When, from any cause, the ochre-coloured diarrhœa is protracted, and prevents convalescence, or begins to reduce further the already diminished strength of the patient, much relief will be obtained from the administration of opium, in small doses, three times a day. It lessens the morbid irritability of the intestinal canal, and in this way relieves the diarrhœa.

The watery extract of opium is preferred the dose varying from half a grain, to three grains. The dose of extract of hyosciamus varies from three to ten or twelve grains.

Stimulants are less used than formerly because this fever is less malignant and they are less requisite. "As an ordinary or general remedy, they are not demanded, but they are indispensable in the worst degree of this fever; and exceedingly beneficial in some particular states. The most eligible are brandy, wine, camphor, ammonia, and turpentine."

When there is great prostration, the temperature of the surface below natural, the belly tympanitic with involuntary dejections, wine or dilute brandy should be employed frequently but with moderation, in conjunction with full doses of camphor as three grains, and of carb. ammon. five or more grains, with turpentine injections. In congestive cases, stimulants are necessary, but must be employed with great caution lest they produce great inconvenience from excess of re-action. *Regimen* in this disease is of the utmost importance. While the fever is urgent, the regimen should be restricted to cold water toast, and water, soda water, weak lemonade and gruel; if diarrhœa supervenes, the best drinks, are barley and rice water, or weak solution of gum arabic. When the fever is on the decline animal broths should be allowed, animal jellies, are a grateful nourishment, and may frequently be allowed when broths are improper. Beef tea is a medium between jelly and broth. When the tongue cleans and the appetite returns, white meats as boiled chicken or fish, are admissible, the allowance of food should be increased gradually and with great caution.

Chap. XII. *Of the special treatment*, and first *of the means of arresting of the development of adynamic fever.* In the way of attack through the intervention of an exciting cause the development is so sudden as not to admit an opportunity of attempting to arrest it. But it is otherwise when the way of attack is spontaneous. The signs which precede this spontane-

ous development, have been already described. They are head-ache, occurring about noon and lasting through the day with great weakness, and in the evening a slight accession of fever. Bleeding will not remove these symptoms, and is not to be employed; but if the head-ache is so severe as to tempt us to the abstraction of blood let the quantity be small. Instead of blood-letting emetics and bark should be resorted to, twenty grains of Ipecacuanha may be administered an hour before the expected return of head-ache; and when it has ceased to operate give a mild aperient, as fifteen grains Rhii with two or three grs. of calomel.

The bark should be given every three or four hours during the absence of febrile heat.

Where the attack is characterized by a decided periodical accession of fever with head-ache every evening, no indisposition showing itself through the day, which mostly occurs in children. The cold affusion every evening is exceedingly efficacous in addition to other means. It should not be used until the febrile heat is decided and universal.

Of the early treatment of the adynamic fever with a view to cut it short, which is in the power of art when the way of attack is through the intervention of an accidental or exciting cause as cold; here the attack is generally violent, the force of the circulation increased, head-ache severe, eyes and face suffused, tongue moist, white-coated with a dirty shade, febrile heat of the whole surface, and no urgent depression of the nervous system and the degree of the adynamic character slight. In this state venesection as late as the third day will be of eminent service and it may be requisite to be repeated in twelve hours; it will mitigate the symptoms at once, and frequently cut short the disease. The age, habits, &c. of the patient should always be held in mind. If he be past the meridian of life, and has been addicted to inebriety, or his mind be oppressed by anxiety, or his body by fatigue, blood-letting must be employed sparingly. In these patients muscular tremor, with hurried manner and rapid utterance, will be present shewing a tendency to delirium tremens.

Of the treatment of adynamic fever, after it is fully formed.

The first degree, is so mild as to require very little treatment. Supply the patient with good air, and fresh linen, keep the bowels rather freely open by any of the aperients before mentioned, giving a simple saline as liq. ammon. acet. ʒij three times a day. Gruel alone as food until the head-ache and flushing of the face subsides and the tongue becomes clean.

The second degree, is attended with considerable head-ache, suffused face and eyes, and febrile heat over the surface, the prostration not urgent.

Yet as the development is spontaneous it must run its course and cannot be cut short. The object should be to moderate the symptoms and protect the various organs against an undue momentum of blood which may lead to inflammation.

This end will be effected by the abstraction of six or eight ounces of blood from a vein, which may be repeated in forty-eight hours, if the first bleeding has been beneficial, and circumstances call for a second: but, if the general febrile excitement has been moderated, and the head-ache is still severe, two or three ounces may be taken from behind the ear, by the cupping glass, with great advantage. The abstraction of blood, even in small quantities must not be frequently repeated, on account of the pain in the head, for it will not remove it entirely, and may weaken the patient seriously and unnecessarily.

I have, more than once, pursued blood-letting in these cases, in the hope of curing them speedily; but the attempts have never succeeded, and the debility induced has protracted convalescence very much. The blood is not at all or only slightly buffed; and seldom or never cupped.

The bowels are sluggish, and the belly often flatulent; which must be counteracted by aperients given every, or every second day, so as to keep them freely open, and the more dark and offensive the dejections, the more are aperients to be persevered in.

If the physician is partial to the use of mercury internally he may safely administer it in this instance in doses of Cal. grains ij combined with 6 or 8 of Rhii to form the aperient or 5 grains of blue pill every night. Mercury should be however used sparingly for the reason pointed out under that head.

To these means may be added saline medicines as Liq. ammon. acet. ʒiij every four hours. Under this mild treatment the head-ache &c. will abate and the patient recover in the course of ten or twelve days. The delirium at night does not require any particular treatment.

It may be of service to cut the hair close but not requisite to apply evaporating lotions which are indeed of questionable efficacy in these or other cases. They are thought to give cold, excite a languid inflammation of the eyes with puriform discharge, and excite or increase the pulmonary catarrh. (This opinion of our author we must dissent from as we have seen undoubted benefit from their application.)

Sponging the head frequently is very grateful and attended with relief.

The Third degree, is attended with such prostration, as to forbid venesection, but lethargy and dusky suffusion of the eyes and face will be relieved by the abstraction of 3 or 4 oz of blood from behind the ear by means of cups. Which may be repeated in a day or two (not to exceed 3 oz.) if the dull pain in the head and lethargy continue. After the small abstraction of blood by cups a moderate sized blister may be applied to the crown of the head. "It is in this degree of the adynamic fever, that the external use of mercury is so eminently serviceable." A half drachm night and morning to be rubbed in on any convenient part of the surface, until it effects the object desired.

The occasionally relaxed or sluggish bowels with dark and offensive discharges and flatulent distention, are best relieved by the daily use of mild aperients. Rhii in doses of 6 to 10 grs. is the best. The delirium will be mitigated by an effectual evacution of the bowels, but if after this and the abstraction of blood from behind the ear it should remain with restlessness, the Extract Opium in the doses of one and a half grs. or Hyosciamus in the dose of 6 or 8 grs. may be given at bed time. When the fever begins to decline the *ochre-coloured diarrhœa* succeeds to the dark offensive dejections.

When the secretions begin to be re-established and the amendment visible, mercury should be gradually lessened and discontinued.

"Stimulants are rarely necessary, for as soon as the urgent signs abate, the powers of the system rally of themselves."

The treatment of those who have been neglected in the early stages of this degree will be considered under the head of "The treatment of the black offensive diarrhœa."

The treatment of the fourth degree. From the description of this degree it bears a near relation to delirium Tremens. It always occurs like it in those who are at, or past, the middle age, whose habits have been intemperate, or, whose spirits and nervous systems have been shattered and broken by mental distress. They are desperate, often fatal cases. Bleeding is here incompatible. The treatment should be directed particularly to the intestinal canal, the nervous excitement, &c. being kept up by any lodgement of the black offensive fœces.

Rhubarb is undoubtedly the best aperient and may be given with Conf. opii, 8 or 10 grs. of each and a drachm of Syrup zingib. in aq. cinnam. as a draught to be repeated in four or six hours if the bowels are not satisfactorily evacuated. Castor

oil if preferred, may be given in the dose of two or three drachms. The hair should be clipped close and sponged frequently with cold water; and tepid ablutions to the surface where the skin is dry or harsh are very refreshing. Mercury should be used without delay, half a drachm or more of the strong ointment, to be rubbed in every eight hours, and every three or four hours the saline effervescing draught of half the usual strength as 10 grs. of Carb. pot, ʒij of lemon juice. Soda water may be used as a drink and is very refreshing. When the bowels are cleansed Opium or Hyosiamus should be given to tranquillize the nervous system as a gr. or more of Ex Opii or five of Ext. Hyosc. every six hours, and we may now prescribe the Decoct Cinchon in the dose of one and a half oz. or the Sulp Quinine in the dose of one grain, to be given alternately, with the effervescing draught.

If the prostration is urgent when the bowels are relieved, porter, or brandy and water are requisite, beginning with caution and sparingly and gradually increasing or diminishing according to circumstances. By judicious perseverence in these means, the patient may often be saved, but the shattered constitutions of many of these patients baffles too often every effort. When they are effectual it is denoted by diminished nervous excitement and a return of the secretions. Tranquil sleep is beneficial and auspicious. When the secretions are established and the tongue is moist, the bark may be administered more freely and the effervescing draught omitted except in the evening.

The treatment of some peculiarities, which differ from the usual combinations of symptoms is selfevident.

Where the head is chiefly affected, cups must be used. When derangement of the abdominal viscera is the most apparent, we should have recourse to aperients repeatedly. As these cases are all mild they are to be treated mildly.

The treatment of the peculiar manner of attack from mental distress. The great cerebral excitement, and active delirium, demands a decisive treatment. The affection of the brain is of a mixed character not depending on inflammation alone but also on an excitement of the nervous system. The treatment must correspond with this character.

Blood must be drawn from a vein to the extent of 10 or 12 oz. and this repeated in 16 or 18 hours, either by venesection or cupping according to the effect of the first bleeding, which must also guide the quantity. Which in the second repetition, should not exceed eight oz. and a third four or five. If bleeding is pushed too far the patient will sink.

After bleeding, and the free evacuation of the bowels by means of Rhubarb or Castor oil, Opium or Hyosciamus should be used in full doses, as two grains of the former, or eight grains of the latter, to be repeated every eight hours, if its effects are beneficial. Blisters should be applied to the crown of the head, and mercury freely rubbed in.

The treatment of the peculiar sudden manner of attack in those who fall down from exhaustion and debility little is required. If the circulation is very languid, the Carbonate of Ammon in the dose of three or four grains, or a little brandy and water will restore it, and the fever being then developed, must be treated according to its character. When the attack is like apoplexy, and there is an alarming congestion of the brain, a few ounces of blood should be drawn from the external jugular vein, but not until re-action has commenced.

If the circulation is very weak, brandy and ammonia in small quantity will be necessary, and may be required together with, or after the abstraction of blood. The congestion must be relieved by small bleedings, as three ounces, which must be repeated with caution.

The treatment of the hemiplegic paralysis when it occurs does not necessarily call for venesection, but blood may be extracted in very small quantity by cupping if required. The paralysis will recover as the signs of the adynamic fever abate, to which the treatment should be in general directed. A case is given where the use of the side was perfectly restored in six or eight weeks without blood letting or any treatment other than was indicated by the fever itself.

In the treatment of the peculiar adynamic state which is one of excessive debility, the tonic treatment should be entered on. Decoction Cinchon. should be given three times a day, and the bowels being kept freely open by Rhubarb, and a small allowance of porter or ale, as a wine glass full occasionally, or a little weak brandy and water.

The coated dirty tongue does not contra-indicate the Bark as long as there is no febrile heat. If there is a nauseous bitter taste, or a yellow shade on the coating of the tongue, the above should be preceded by an emetic. Tea, bread and butter, animal jelly, &c., may be used as food, but not solid animal food until the tongue cleans.

The treatment of the congestive state, which consists in a greater or less depression of the vital functions, does not admit of bleeding, which would extinguish the remains of vital power. Stimulants are the proper remedies, as Brandy, Ammonia, Camphor, Spirits of Lavender, &c., and warmth by

means of hot flannels to the extremities. Strong hot coffee may be of service.

It often happens that this state is followed by a high degree of fever, which will be aggravated by the immoderate use of stimulants, which should therefore be proportioned to the urgency of the case.

In the treatment of the adynamic fever accompanied with local inflammation, bleeding must be regulated by the vehemence of the local inflammation, and by the slight or grave character of the adynamic fever.

The strength of the pulse indicated by its degree of compressibility is a good criterion. We must be guarded in forming our judgment of the existence of inflammation, as we may attribute the embarrassment of the functions of some organs, as the lungs, to that cause. Asthmatic persons for example, if attacked by fever, would have difficult respiration. The history of the patient, and the comparatively little distress and anxiety in the countenance will assist the diagnosis.

The treatment of local inflammation occurring after the decline of the adynamic fever is to be conducted on the same principles as that occurring in ordinary cases where the physical powers are weak.

Patients although thus reduced, bear venesection better than during the adynamic fever, and the blood will exhibit the buffed and cupped appearance. The parts most subject to inflammation are the peritonum, the lining membrane of the heart, the pericardium, the pleura, and the bronchial membrane.

(Some other subjects are considered by our author, but as we have now extended our analysis further than we intended, we are reluctantly obliged to stop.)

RETROSPECTIVE MEDICINE.

ART. I.—*An Essay on Fevers. To which is now added, A Dissertation on the Malignant Ulcerous Sore Throat. The fourth edition.* By JOHN HUXHAM, M. D., Fellow of the Royal College of Physicians at Edinburgh, and of the Royal Society at London. London, 1764.*

Nothing exhibits the superiority of the moderns over the ancients, more strikingly, than the almost unlimited means and facilities, which the scholar now possesses, to assist him in the acquirement of literature and science. Easy vehicles, fine roads, and pleasant inns, are not more commodious to the traveller, than the various auxiliaries of science are to the student. In most departments of knowledge every thing seems to be adapted to accelerate our progress, and to ensure a prosperous journey. Nothing now appears to be wanting beside industry and perseverance, to enable us to reach whatever rational point we may have in view, with the certainty of success. The natural obstructions and embarrassments, which necessarily existed in a rude state of things, and the heaps of rubbish which had been accumulating during the dark ages, have been cleared away, new paths are opened in almost every direction, we are left to travel the roads of improvement at our ease, and the most formidable and discouraging difficulties in the ascent of the hill of science, seem to be forever removed. A natural consequence of these facilities for the cultivation and improvement of the mind is, that in our day there is an unparalleled diffusion of knowledge, not only in the public at large, but in the general information of individuals. Every man, who has any pretensions to education, knows something of nearly every art, science, or profession. That *quoddam commune vinculum*, the certain common chain, of which Cicero so happily speaks, has indefinitely increased in extent since his day, and in its ample compass, combines, encloses, and unites, the various parts of an almost boundless field.

* We believe this to be the last edition of Huxham on Fevers, which was published during his life, and consequently the most to be depended on for its authenticity.

Amid these innumerable conveniences, facilities, and indeed allurements, which have been much increased, even in the present century, such is the imperfection of every thing human, that we are exposed to some difficulties and temptations, necessarily arising from the very advantages and improvements of the age. The multiplicity of books, which are really valuable, is so great, that no one can pretend to read the whole that belong to either of the professions; and a proper selection, especially to the young and inexperienced, is often unattainable, and always a matter of difficulty. We are liable to read in haste too many works, and the voracity of an overstimulated appetite, leads us to devour more than we can digest. The mind is therefore apt to be overloaded and crowded, much more than it is improved and disciplined, by a superficial attention to too many subjects. Sometimes a fastidious taste is acquired, that relishes nothing which is not dressed and served up in a peculiar manner, and the solid and substantial fare, which well answered the purposes of our fathers, excites loathing and disgust. A very natural consequence of this state of things is, that some of the most important branches of science are occasionally neglected, or have not assigned them that share of study, which is proportioned to their relative importance.

The preceding remarks, though they apply with sufficient accuracy to almost every literary or scientific pursuit, are forcibly and peculiarly adapted to the present state of the medical profession. The facilities and improvements in the acquisition of medical science, resemble the introduction of the science of chemistry, and the various kinds of machinery, into the mechanical arts and manufactures. Industry and perseverance are still as necessary as ever, though we have the means of accomplishing much more, and in most instances of arriving at greater certainty and exactness, than our predecessors; and many things which they executed sufficiently well from accident, or a mere mechanical habit, we now perform upon accurate and scientific principles. The cure of diseases is our final object, and to this practical end all our learning and science should be ultimately directed. In order to become perfect masters of our profession, the history of the diseases, practice, and opinions, which have at different periods prevailed, should be well understood. For this purpose, a frequent reference to the past is necessary, and retrospective reviews, condensed analyses, summaries, and selections, are ever requisite, to call the attention to those works of our predecessors, which, though possessing real merit, are apt to be

lost sight of in the crowd of new publications, or from their antiquated costume are becoming obsolete, and are in danger of being overlooked and forgotten.

Theories arise, flourish, and decline, according to the fashion of thinking in their particular age, or school; but accurate practical observations are always profitable, and are bounded in their utility by no limits of time or place; for, the outlines of all rational practice will apply to all periods of the history of man, since he has been under the government of those laws which now regulate his existence.

We have frequently had the honour to belong to a pretty numerous board, the members of which are elected and meet annually. There is usually a multiplicity of business to transact during a short session, various forms are necessary to be observed, and as in other elective bodies, most frequently several new members are introduced. Many of the board are consequently unacquainted with its rules, and ignorant of the manner in which the affairs of the institution had been previously transacted. At every session therefore, new regulations are proposed, and by-laws are often enacted for the benefit of successors, who in their turn are as likely to need information as the present incumbents. The consequence is, that the same rules are adopted, and the same by-laws passed and repassed, and a considerable portion of our voluminous records consists in a repetition of the same regulations which have been enacted over and over again. At various times, committees have been appointed to draught a new set of regulations, and to report the proper forms of doing business. Upon searching the records, they usually find an ample abundance of precedents; the same cases and difficulties have occurred to our predecessors; and they, having been men of as much common sense as ourselves, generally had recourse to the same expedients, which it is now found necessary to adopt. While attending to our duty as members of the society, we have often thought that our board, the members of which, by the way, are all physicians, was an exact resemblance, as respects the repetition of forgotten opinions and practice of the whole medical body, and that all the concerns of the profession in general were here, as in miniature, really and strikingly transacted. There must necessarily be in the world a constant succession of new physicians, the same diseases are very generally reappearing at different periods, and the same treatment, if proper, is to be employed again in similar circumstances.

Much of the time and labour of the present day is employed in investigating, collecting, and arranging, the learning and

discoveries of our predecessors. The language and fashion of the exterior are constantly changing, and these variations make a new dress, if not absolutely necessary, at least very frequently expedient, though the substance continues the same, and from its very nature must always remain immutable. Had our predecessors been contented to state simply the facts which they noticed in therapeutics, without considering themselves as bound to assign the causes of which those facts are the effects, most of their best medical authors, instead of being now scarcely read, except by the professional antiquarian, might have served as text books for the students of the present day. The elder physicians generally described symptoms with the greatest accuracy, were very correct in their indications, and many of their methods of treatment admit of but little improvement. Most of their works, however, are incumbered with some exploded theory, and many of their best descriptions are much tinged with the technical language which is peculiar to their hypotheses, so that their meaning is now obscure, and cannot be readily discovered, without the assistance of a glossary, or a translation. All their terms however, being derived from some prominent symptom, or from some figurative analogy, have a definite meaning, and convey precise ideas, when they are exchanged into a language which is intelligible to the student. To most physicians of our day, the writings of the early English authors almost as much require translating, as the works of Hippocrates or Celsus. In reality, many European medical authors are much less intelligible to a good classical scholar, than the Greek and Latin fathers of physic; since the latter are unincumbered with many technicalities, or much hypothesis, and are generally plain and simple narrators of the phenomena, which they so accurately noticed and recorded.

Every man of real science is not satisfied with merely a knowledge of its present state; as far as practicable, he traces it to its source; and he is not contented till he has obtained all the information that is possible, concerning the opinions and practice of the predecessors in his profession. In the course of his investigations, he finds much to enlarge, improve, and discipline his mind; and though his vanity may be sometimes mortified to discover, that what he had supposed to be new, uncommon, or peculiar to his day, had long been known and acted upon in past ages, in the end his principles will be more firmly established, by seeing that fundamental truths have long been acknowledged, and that they always rest upon the same immutable basis. There has been no change in the laws of the animal economy, and as respects

sickness and health, the same phenomena which were so accurately observed by Hippocrates, more than two thousand years ago, will perfectly apply to the situation of things at the present time.

A considerable part of the difficulty of understanding, not merely ancient authors, but several of the writers of our own age, arises from not attending to the circumstances under which their works were composed. The same facts are not only stated in different theoretical and technical language, but various diseases, or different forms of disease, are often expressed by the same name, or the same disease by a different name. To avoid circumlocutions and perpetual descriptions, we must necessarily have names; and an arrangement of these names, more or less perfect according to their real or supposed affinities, constitutes a system of nosology. From the proneness of mankind to generalize hastily, and to class together many subjects that have but few circumstances in common, the likenesses of things being usually much more obvious than their differences, nosology has produced nearly as much injury as benefit to the cause of medical science. Diseases and symptoms that bear the same name, at different times, and in different circumstances, more especially under different epidemic constitutions or general diatheses, require very various and even opposite modes of treatment. From the innate love of ease, and the aversion to laborious exertion and minute investigation, there is ever a disposition to make a classification as comprehensive as possible; most men are inclined to generalize as much in their therapeutics as in their nosology; and great caution is always necessary to prevent our customary practice from degenerating into a mere routine. It is sometimes peculiarly proper to call the reader's attention to one description of circumstances, and sometimes to others of a very different kind; in one set of cases enforcing a particular practice, and in others of the same disease prescribing an opposite course; so that what may seem, to a superficial reader, to be a scene of confusion and contradiction, is generally capable of being unravelled and explained upon the most satisfactory principles, to those who examine, with an enlarged view, all the parts in connexion with the grand whole.

The number of branches of science which it is necessary to learn as auxiliarly to medicine, and the perfection to which they have now attained, though highly honourable to the present age, it is apprehended, are sometimes indirectly injurious, by diverting the time and attention from the study of those authors, that are necessary to the attainment of a perfect

knowledge of the principles of clinical practice. If this apprehension, which, with much delicacy and some hesitation we suggest, is in any degree well founded, it necessarily follows, that men of the most extensive general science, are not always the best acquainted with practical writers, and consequently are not always the ablest practitioners. Not that we would insinuate, that the auxiliary branches of science are too much studied; but only, that since a greater portion of time is now devoted to them than formerly, it should not be considered as a substitute for that share of study, which was allotted by our fathers to the acquisition of practical knowledge. The actual improvements of the present age are such, that those who would be expected to excel in either of the professions, must necessarily devote a larger portion of time, and a greater share of industry to the preparatory studies, than was formerly demanded; and it is probably more expedient to enlarge the period of investigating the views and practice of our predecessors, than that of most other departments; and yet, we suspect that this is most frequently encroached on and curtailed.

Notwithstanding the immense improvements in the sciences auxiliary to medicine, upon a close investigation it is surprising to find, how little there is which is really new, in *the practical treatment of febrile diseases.* Chemistry, pharmacy, botany, materia medica, anatomy, physiology, surgery, and perhaps the treatment of several chronic maladies, are cultivated in our day with a certainty and success, which was not known, and scarcely dreamed of, by our predecessors; but, our improvements in the knowledge and management of *acute febrile diseases*, are much more questionable. It is a matter of great doubt, whether Sydenham, Huxham, and Pringle, did not treat the acute fevers of their day, with as much success, and have as large a proportion of their patients recover, as the most able of their successors. These three authors are still to be found in almost every private medical library, though we apprehend, they are rarely read except upon being occasionally consulted as books of reference, and that few study them thoroughly, or are minutely acquainted with their contents. Nevertheless, they form a practical library in themselves, and contain a complete record of the practice in the acute fevers that prevailed in Great Britain, during a great part of the last century. Of these three writers, Sydenham, who lived in the seventeenth century, was the great pioneer, and did more than all the moderns, to remove the rubbish with which medicine, as well as most other arts and sciences, had been encumbered during the dark ages. Pringle is well known, as the ablest writer upon military practice, in the last

age. Huxham, however, was the most distinguished English writer upon medicine, during the middle of the eighteenth century, and obtained almost universal sway, being considered as the highest authority in febrile diseases, previous to the great influence of the school at Edinburgh under Cullen.

We are induced more particularly to select Huxham, as the subject of a retrospective view, because if he is read at all by modern students, it is with most of them but very superficially; and many of the diseases which he so accurately describes, as well as his practice, appear to be very imperfectly understood. We are the more confident of this, since his few followers, who still remain, have most generally their principles misstated, and their practice misapprehended, by a great proportion of their medical brethren. That so eminent an author, and so able a practitioner, who has been dead only about sixty years, should so soon be forgotten, we could never have believed, did we not every day hear doubts of the existence of many of the combinations of symptoms, particularly in nervous fever, which are so minutely delineated by Huxham, among those physicians who have never happened to witness them, or rather to notice them; and this treatment, with the improvements made upon it by Cullen, is very frequently mentioned and censured, as a recent innovation on the one hand, or is stigmatized as Brunonian practice on the other; and this too, not merely in conversation, but in works of authors of considerable distinction. We might make the same remarks concerning the practice of some eminent authors, who are much later than Huxham; for, a very important method of treatment, the free and regular employment of opium in atonic fevers, (see Cullen's materia medica, article opium; and Rush's Sydenham, where in a note, Rush very ably explains and defends Sydenham's practice;) which Cullen evidently borrowed from Sydenham, and restored after it had been obsolete about a century, often receives the same censure, and is very inaccurately attributed to the same source, in opposition to Cullen's express testimony to the contrary.

Such being the fact concerning the opinions of a considerable body of our profession, and the knowledge of many concerning their predecessors being so deficient, we consider it as a duty to recall the attention of the faculty, to the state of the practice of physic in England, during the greater part of the last century. We shall confine ourselves principally to sketches of his history of diseases, and to his practice, which, if correct, will always be a subject of interest, passing lightly over the theories of our author, which in most respects are exploded,

and justly fallen into oblivion. Very many bestow their whole attention to the present time; they entirely forget, or retain but a faint recollection of what has preceded the present day; and they even need to be constantly reminded of what they themselves once well knew. They are continually learning and practising what they suppose to be novel, without being sensible that they are only repeating what had been generally known, and often done by their predecessors.

(*To be continued.*)

ANALYSIS

OF

FOREIGN JOURNALS.

Archives Generales de Medicine. Paris, May, 1828.

1. *Empoisonment.* This is a memoir presented to the Royal Academy of Medicine, by Mess. Orfila and Leseur. It teaches the method of detecting various poisons, which remain in the alimentary canal of bodies, long after death.

2. *Foundling Hospital.* This article is by M. Ratier, whose reports upon the hospitals of Paris have been frequently noticed. The mortality in this institution is terrible, almost beyond conception. In 1826, 5392 foundlings were admitted, of whom 1404 died in the hospital, though it is only a place of passage, where they are collected and kept, till they can be put to wet nurses. M. Baron the physician is considered as very able in his profession, and the mortality is attributed, probably with justice, to the changes and hardships which the infants must necessarily undergo, before they are permanently placed with proper nurses.

3. *Sheet Lead in wounds and ulcers.*—By A. Menon, M. D.—It had been used, as he states, in more than sixty cases in *L'Hotel des Invalids*, and it appeared to merit all the encomiums which M. Parise has bestowed upon it, as well as the Baron Yvan. It is applied to almost every kind of solution of continuity, such as recent wounds, suppurating erysipelas, phagedenic and other bad ulcers, &c. with almost equal success. The plate of lead is confined immediately to the part by a compress and bandage, and is only removed once a day, when it is wiped clean as well as the ulcer. [We have ourselves lately employed the lead of *tea-chests*, as a dressing for foul ulcers, with very satisfactory results]. See Med. Rec. vol. 14, page 438.

4. *Asphyxia.* A soldier who was subject to epilepsy, fell into the sink of a water closet, and was buried in the fecal matter, from which he was taken out dead. The glottis was open, and the epiglottis raised. The larynx and trachea were filled with fecal matter, the more diluted parts of which had penetrated into the remotest bronchial ramifications. We have not space to notice the report of the dissection further, than the observation, that the red colour of the pulmonary and digestive mucous membrance, could not be attributed to inflammation, since an instant before the accident, the man was in perfect health. The case is reported by M. Rennes of the hospital of Strasburgh.

5. *Treatment of Ranula.* by M. Dupuytren. The indications of cure require an opening of the tumour for discharging the liquid of the cyst, and that this incision should be kept open, in order to evacuate the fluid as it naturally collects. M. Dupuytren makes use of a silver tube with a button, pierced with holes, at each end, shaped somewhat like those sleeve buttons which are connected with a bar instead of a chain. One button is introduced into the cyst, while the other remains outside of the ranula. The tube is not generally introduced, till cicatrization has begun, and the opening contracted enough to cause it to retain the tube. Several successful cases are reported.

FOREIGN MEDICINE.

6. *Epidemic of Holland in* 1826. This is a translation from the German, of a report of the disease by Dr. J. C. G. Fricke of Hamburg, and principally refers to the epidemic as it appeared in Groningen. In 1825, Groningen contained 30,215 inhabitants, of whom in that year, in the months of May, June, July, August, September and October, 446 died. In 1826, during the same months, there were 2027 deaths. It is very remarkable, that in Groningen, a city containing 30,000 inhabitants, there were only eight practising physicians, when the epidemic first appeared. In our country, 30,000 inhabitants require thirty, and more generally are furnished with fifty or sixty physicians. It seems the Dutch do not make doctors with the same facility as some of our medical schools; or the usual health must be great beyond any thing that we experience; or very probably, the inhabitants rarely call on a physician in intermittents and remittents, their common diseases. To this circumstance, the want of medical attendance and advice, a great proportion of the distress and mortality is to be attributed. It is inexpedient to analyze this article, since it is only an account of the same epidemic, which appeared at the same time at Jever, in East Friesland, and upon almost all the northern coast of Netherlands and Germany. See Medical Recorder, vol. 13, page 49, where the reader will find a very able essay upon this disease, (translated from the Latin), by F. A. L. Popken, M. D. The epidemic was a bilious remittent fever, in which sulphate of quinine assisted by proper adjuvants, when timely employed, proved to be a remedy nearly specific. The statements of Dr. Popken and Dr. Fricke agree in all essential points, as to the nature of the disease, and its appropriate treatment.

GENERAL REVIEW, OR CASES FROM OTHER JOURNALS.

7. *Woman with three breasts.* Dr. H. L. Drejer states a case of a woman who had an additional or third breast, extending from the sixth to the eighth rib under the left mamma. It had no areola, but a papilla resembling a nævus maternus, from an opening in which, milk might be made to pass out in a jet, upon slight pressure; and there was a spontaneous running of milk, whenever her infant was drawing the true mamma of the same side.

In 1799, Dr. Froriep of Vienna observed a case of similar conformation.

8. *Superfetation.* M. Castes relates a case of a mare that was delivered of twins, one of them a common colt, and the other a mule. They were known to be the offspring of a horse and an ass, both of which had access to the mare within a short time of each other.

9. *Monstrous Calf.* A Dr. Schreter states, that at Wagendrussel, in the county of Zipes, in Hungary, April 25, 1825, a cow was delivered of a monster, which was immediately killed. The calf had a face resembling that of a man, with smooth skin without hair, blue eyes and brown eyelids. On each side was a small human ear, attached to the lobe of which was a calf's ear three inches long, and furnished with hair.—We shall not pursue the description, since the editors of the Archives do not themselves give full credit to it, and the monster does not appear to have been examined by any naturalist or physician, but only by the magistrate, the citizens, and a deputation from the county, after the public feelings had become strongly excited, and eight days after its birth. In the course of that time, persons of skill and science might have been easily procured to examine the monster. This was not done.

10. *Pseudo-syphilitic ulcers.* Some cases of this kind are noticed from a statement by Dr. Simeon in Hufeland's Journal, in which phagedenic ulcers appeared about the genitals. Though they were relieved by mercurial oint-

ments, no mercury was taken internally, and they were without the suspicion of being syphilitic.

11. *Ichthyosis.* Two or three cases of this disease are stated from the authority of Professor Asiaux of Liege, in which the subjects were covered with scales similar to those of a fish, about the knees and lower parts of the thighs. The scales fell off in autumn, and returned in the spring. The patients were otherwise healthy and robust. Upon subjecting the scales to different analyses, they were found to consist of carbonate and phosphate of lime, silex, oxyde of iron, mucus, gelatine, &c. not essentially varying from horns, hoofs and nails.

12. *Fractures of the Cranium.* Two cases of very severe fractures of the cranium are related by Dr. Jahn, of Gustrow. In the first case, there was a considerable loss of the substance of the cerebrum, and several splinters of bone were beaten into the brain. This patient recovered within a few weeks, though the injury laid the foundation of an incurable epilepsy. In the second case, the convex surface from the middle of the occipital bone to the ear, was completely flattened, and remained so ever after, though the recovery of health and of all the functions was complete. This patient was a boy of eight years old; the former a young man, eighteen years of age.

13. *Periodical contractions of the lower extremities.* Dr. Fallot of Namur mentions a case of a girl of nineteen years of age, who in consequence of a fright had a sudden suppression of the catamenia. Within about three months, the suppression still continuing, she experienced a contraction of the lower extremities to such a degree, that the heels rested upon the nates. In about five days, the contraction ceased, but it returned regularly every month. After various remedies, such as bleeding and emenagognes had been tried, leeches were applied to the spine, which afforded some relief. They were frequently repeated, and within about eleven months from the affright, the catamenia returned, and with them perfect health.

14. *Perforation of the rectum.*—This accident occurred from the pipe of a syringe, and in a few days was followed by the death of the patient. Cases of this kind, it is said, are not rare, and it is recommended, that the tubes of syringes for administering enemata, should be composed of elastic gum, instead of ivory or metal.

15. *Biliary calculi.* Dr. Friedler mentions the case of a man sixty-seven years old, who passed two biliary calculi, one of them half the size of a common egg, the other still larger. These calculi were smooth, unctuous to the feel, hard, and consisted of concentric layers or coats. They were similar to other concretions of the kind, and contained *cholesterine*, which proved them to be biliary rather than intestinal calculi.

16. *Retention of urine.* The case is reported by Dr. J. Berres. A boy thirteen years old was seized with an intermittent October 22, 1822. This was followed by a miliary eruption. During the convalescence he was exposed to cold, which was followed by another attack of fever, which left him much debilitated, with an obstinate constipation. November 22, he had an insupportable pain in the rectum on attempting to void his feces. In January, 1823, the constipation continued, and the urine decreased, till two or three times for a fortnight together no urine was excreted, when in the month of April it was entirely suppressed, and he continued in this state more than six months!!! In July the patient was very much emaciated, being always costive, and subject to paroxysms of violent pain in the lumbar region. He now lost his consciousness, and was subject to convulsions. Though the catheter could not be introduced into the bladder, it was very evident that the secretion of urine was entirely suspended. After various treatment had been tried in vain, he spontaneously recovered. An abundant secretion of

urine seemed to take place of a sudden, and it was easily voided. The boy had remained two years without a relapse. [This by far exceeds the case noticed in our last number, page 475].

17. *Bite of a viper.* Dr. F. A. Wagner gives the following case: "A woman, thirty-nine years of age, cutting grass in a meadow, was bitten on the left heel by a viper. The bite was slight, and consisted simply of a scratch upon the skin. She wiped off with her finger a few drops of blood which proceeded from the wound; afterwards, she put the finger into her mouth; and finally, she put it to her cheek, to remove the tears which she had shed during her alarm. The wound soon ceased to be painful, but the tongue swelled, and was the seat of a burning pain. Her face swelled in its turn. Fainting and oppression succeeded, and finally vomiting, which was followed by a little ease. A blister now rose on the end of the tongue; the leg swelled, as did the whole limb to the middle of the thigh. There were no blisters on the skin, though it acquired a yellow tinge. The leg was very painful, but it was not benumbed. Domestic remedies only were used, with little effect, and the swelling advanced, the limb assuming a deep blue colour. The pain did not admit of rest for an instant. At last, in about six weeks the symptoms yielded, and the woman was able, though somewhat imperfectly, to use her leg. For five years afterwards, the limb would occasionally be affected with a sensation of coldness, was easily fatigued, and was covered with varices, though the other leg was free from them. The skin of the affected leg was of a grayish colour to the calf. At the place of the bite, there was a livid, circumscribed tubercle, in which there was a sensation of formication.

Was the swelling of the face and tongue caused by the venom which was adhering to the finger? If such was the fact, (and it appears to be pretty evidently so) it is imprudent to advise suction by the mouth, as the earliest means to be employed in the bites of venomous reptiles.

18. *Poisoning by belladona.*—M. Couty de la Pomerais, at Nearville aux Bois, on the 9th of April, 1828, prescribed a liniment containing two scruples of the extract of belladona to be applied to the abdomen, and an enema in which were ten grains of the same article, in a case of pain in the bowels which he supposed to arise from a gastro-enteralgia. The pupils became much dilated, and the sight was considerably obscured. A considerable narcosis continued to the next day, when a surgeon in the absence of M. Couty advised a repetition of the enema. The ordinary violent symptoms of narcotic poisons now supervened. Various remedies, such as enemata, cathartics, bleeding, and warm bath, were employed. None of them appeared to produce much immediate effect; the symptoms gradually subsided, but the patient did not entirely recover, under about twelve days.

19. *Pounded glass.*—A case is stated of a man, who pounded a common wine glass, and swallowed it with five or six ounces of water, with intent to commit suicide. Repenting soon of the act, he called a physician;—demulcents, oil of almonds and castor oil, were prescribed. It is needless to follow the case, since no very urgent symptoms occurred, and in the course of the second day, all the glass was supposed to have passed the bowels. It is believed, that cases of this kind rarely, if ever, prove fatal.

20. *Fragments of a fœtus in the ovarium.*—Dr. Prasper Denis, in examining the body of a female who had died from exposure to the fumes of burning charcoal, found instead of the left ovarium a round, smooth mass, adhering by a correspondent part of the uterus to a circumvolution of the small intestine. It was six inches in diameter, containing fat of a nauseous odour, consistent, granulous, and yellowish. Besides, there were found in it an irregular osseous mass, a large quantity of hair, several teeth, &c. The

woman was twenty-seven years old, unmarried, and of suspicious character as respects chastity, but had never had a child.

21. *Intestinal concretions.*—Bertholet, Fourcroy, and Vauquelin, found that oriental bezoards possessed all the characters of pure ligneous fibre. Dr. Champion of Barle Duc, sent M. Braconnot a large quantity of peculiar bodies evacuated from the primæ viæ of an unmarried woman of thirty-six years of age. She was cachectic, suffered under amenorrhea, and daily vomited blood, with which these substances were often found. She voided but little urine, and as soon as this secretion diminished, these bezoards were ejected with the hematemesis, which latter symptom was considered as vicarious. The concretions had the form of almonds, and were of the size of a small hazel nut. An analysis showed, that they were of a composition similar to the oriental bezoards. Another case is mentioned, in which similar concretions were voided from the rectum.

22. *Frontal neuralgia cured by belladona.*—Dr. Leclerc, of Senlis, relates a case of frontal neuralgia, in which by the application of a cloth wet with a solution of the extract of belladona, the patient was completely relieved in three days. The application was continued two days after the pain had ceased. The sight was slightly affected during the application of the belladona. It had been three months since the cure, and no relapse.

23.—*Tincture of galbanum in diseases of the eyes.*—This tincture has been employed with much success in passive opthalmia, especially the scrofulous; in simple weakness of the organ; in atony and oedematous swelling of the eyelids; and in cases in which the lachrymal duct is inactive. A compress wet in the tincture is laid over the eye. A burning sensation soon ensues, which however is only temporary; and within an hour, the compress may be removed. The application is renewed within a few hours.

24. *Polypus cured by teucriummarum.*—A girl was recommended to use the powder of teucriummarum, as snuff, in order to palliate a head-ache. She had a polypus of the nose, which disappeared under the application of the powder. The polypus returned within a few months, and in twelve days was again destroyed by the powder. Dr. Meyer relates this case in Hufeland's Journal. It is worthy of a trial, but more cases are wanted to establish the character of teucrium for removing this formidable disease.

25. *Cheledonium glaucum in punctures, contusions, erosions, &c.*—The leaves are beaten into a paste with olive oil in a mortar, and applied to the wound and renewed every twenty-four hours. Dr. Gerard mentions six cases of its being thus successfully applied.

26. *Pyrothonide in angina and other inflammations.*—Dr. Ranque employs a solution of pyrothonide, mixed with barley water and honey, as a gargle in angina, cynanche maligna, and in ophthalmia, as well as several other inflammations.

27. *Hydriodate of potass in metritis.*—Dr. Guerard has employed this article with success in two cases of metritis which succeeded parturition. New properties of iodine are discovered almost every day.

28. *Stramonium in nervous affections.*—Professor Wendt considers stramonium as an efficient article, capable of removing all the diseases which proceed from a super excitation of the genital organs. In other words, it is an antaphrodisiac in cases of debility, though when given in health, it is said to have an opposite effect. [For the antaphrodisiac powers of opium, see Med. Rec. Vol. 12, page 148.]

29. *Tobacco in colica pictonum.*—In the Dublin hospital, a decoction of tobacco is applied to the abdomen by means of compresses dipped in it, as a remedy for colica pictonum. This is followed by pills of the oil of croton tiglium. This method of employing tobacco, is considered as much safer than that by enema.

30. *Extract of fern in tænia.*—M. Ebers relates ten cases, in eight of which he succeeded in expelling tænia, by the resinous extract of male fern. In the two other cases, there was no certain evidence of the existence of tænia.

31. *Colic from iodine.*—M. A. Chevalier has had colic produced, at two different times, by the vapour from large quantities of iodine.

Royal Academy of Medicine. Session, April 1.

32. *Irritation.*—M. Desgenettes made a report in approbation of the work of Mr. Travers, an Englishman, upon irritation.

33. *Vaccination.*—Our limits admit of but few extracts from the report of M. Dubois upon vaccination in France, in the year 1826.

In general, the cow pox was very regular in that year, with the exception that there were more cases than usual, in which its progress was accelerated, so that good matter might be obtained as early as the fifth or sixth day; on the other hand, there were numbers of cases in which it was retarded, and the pustule was not ripe for taking matter, before the twelfth, fifteenth, twentieth, and even the twenty-ninth day.

M. Barrey has taken care to examine the pustule of the thousand three hundred and fifty-second vaccination in succession, since the year 1800, and finds it still to retain its true character, notwithstanding the virus has passed through the preceding number of individuals.

Notwithstanding the efforts for a general vaccination, an epidemic small pox ravaged many departments of France, in 1826, and of thirty-six thousand persons who had the small pox, seven thousand died.

The commission of the academy, consider small pox and varioloid as only different degrees of the same disease, and that varioloid is small pox, modified by different constitutions, and by the protecting influence of cow pox. In the epidemics of small pox, but a small number of the vaccinated have had the varioloid; the varioloid has often succeeded the inoculated small pox; and inoculation of the varioloid has sometimes produced small pox.

On the whole, the evidence is very strong in favour of the protecting powers of vaccination. In general, the vaccinated have resisted the epidemics of small pox, and the small number who have had the varioloid, have had it in its benign form, in which it is never mortal, nor is it followed by any deformity.

34. *To Nature and seat of convulsive, comatose, and mental diseases.*—April 8. M. Pariset reported upon the memoir of M. Mongellaz upon this subject. "M. Mongellaz considers primary diseases as a mere chimera, and maintains, that every disease is necessarily organic and local. M. Pariset considers this principle as too extensive. Without doubt, all the phenomena of life, whether of health or disease, suppose an action of the organs; but these organs act only by virtue of the strength (*forces*) with which they are endowed. This strength is that of life, [or vitality] and is still unknown, anatomy teaching nothing respecting it. If organization maintains life, there are on the other hand, evidently cases in which life is communicated to organized matter, and it rules the matter instead of being the product of it. Fecundation is an example. M. Pariset remarks still further, concerning the author's opinion of primary diseases, that pathologists often confound two distinct things, viz. the cause and the seat of diseases. In some complaints, the cause and the seat of the disease are in the whole organization, as in scurvy for example; in others, as in small pox, the cause is also general, but on the contrary, the seat is confined to a part; in some others, as in traumatic tetanus, the cause is local, but the seat is general. He censures M.

Mongellaz, for having himself made the same confusion, when he would apply his too exclusive doctrine to nervous diseases, hysteria, tetanus, epilepsy, hydrophobia, catalepsy, apoplexy, hypochondriasis, &c. By turns, we see M. Mongellaz indicate the seat of disease, from the occasional cause, and vice versa, &c." He commends the advice of M. Mongellaz, always to seek the occasional cause of disease, whatever the proximate cause may be.

[For further remarks upon the doctrine, that all diseases arise from local affections, see the last number of Med. Rec. page 479, article, Inflammation.]

35. *Sulphate of quinine and cinchona.*—April 22. M. Miquel, in the name of a commission, reported upon a memoir by M. Vulpes, of Naples, entitled "*Critical remarks upon the Sulphate of Quinine and Cinchona in the treatment of Fevers.*" M. Vulpes proposes to examine, in a practical manner, the cases in which the sulphate of quinine is preferable to cinchona, and *vice versa*. He decides in favour of sulphate of quinine in the treatment of intermittents, and in suborbitar neuralgia. He also employs it in dyspepsia, but does not mention the variety. On the other hand, he prefers cinchona in substance in the diseases which are called *putrid*, *hospital*, and *jail* fevers. Distinguishing those fevers arising from putrid miasm, from other contagious fever, which have an inflammatory character, he grounds his opinion from a putrid fever which was produced in an hospital of maniacs, in consequence of the crowd of a great number of these unfortunate persons being collected in a narrow place; the disease was treated in vain, not only by antiphlogistic remedies, but also by the sulphate of quinine, and it did not yield until it was combatted by cinchona in substance. This medicine, given in powder in the quantity of half an ounce a day, combined with serpentaria and camphor, soon changed the face of things, and restored many desperate patients who were upon the borders of the grave. M. Vulpes thinks, that when a periodical disease is to be combatted, the sulphate of quinine is preferable, but when we would give tone to the organs, and neutralize the putridity of the humours, we must have recourse to cinchona in substance, because, as the ancients would say, it is an antiseptic remedy."

36. *Sarcocele.* As long as diseases of this description are local, and the general health good, M. Amusat recommends extirpation, and states a case of complete success. But when there is a cancerous diathesis, an operation is of no service, and though the wound, in general, readily heals, yet the complaint is sure to appear soon in some other part of the system. The various success, and the fatal consequences which often ensue, he attributes to the general state of the system being so frequently overlooked. He mentions a fatal case.

VARIETIES.

37. *Yellow Fever and M. Chervin.* This is a reply of M. Chervin to the objections which M. Gerardin made to the report upon M. Chervin's documents upon the contagion and importation of yellow fever. [Upon no subject are the inhabitants of any city, town, or village so sensitive, as upon its comparative salubrity; upon no subject are mankind in general more prejudiced, not to say dishonest; and consequently, upon no other is it so difficult to arrive at the truth. Perhaps a malignant, pestilential disease never raged to any considerable extent in a community, without its exciting all the malevolent passions that ever rankled in the human breast. We have personally known thirty persons lying sick at one time of a malignant disease, in a village of about three thousand inhabitants, and yet a majority of the clergy and physicians signed certificates, purporting that no such disease existed, and that the town was healthy. We have witnessed facts of this kind of prevarication, if possible, still stronger. While such "ocgans

of falsehood" continue to be diffused over the world, it will be impossible for those who are at a distance, either of time or place, ever to ascertain the truth. One thing, however, appears to be certain concerning yellow fever—a timely desertion of the districts in which it first appears, and an entire separation between the sick with their attendants, and the other citizens—when these regulations are strictly observed, the disease soon ceases its ravages. We shall decline, at least for the present, from entering into the controversy, and merely remark, that the subject appears to have excited nearly as much sensation in the Royal Academy of Medicine at Paris, as it ever did while the warmest discussion was agitated in New York or Philadelphia.]*

38. *Dictionaire de Medecine.* The great national work, the *Medical Dictionary* in twenty one volumes, is completed, and the last volume is noticed in the present number of the Archives. It has been principally compiled by the joint labours of about thirty of the most distinguished scientific physicians of France, and is considered as containing all the important knowledge, discoveries and improvements, in the various branches of the healing art.

39. *M. Georget.*—The decease of M. Georget, author of the articles upon mental and nervous diseases in the new medical dictionary, one of the editors of the archives, and one of the ablest men in his profession, who died the last spring, at the early age of thirty-three, is announced in the present number. He had been considered as favouring materialism, indeed in one of his works, he professed it, but sometime previous to his death, he utterly renounced it, and left the following testimonial. "New meditations upon a very extraordinary phenomenon, somnambulism, permitted me no longer to doubt of the existence within and without us, of an intelligent principle, altogether different from material existences. This is, if it is desirable to be more explicit, (*si lon veut*) a soul and a God. There is with me, in this respect, a deep conviction, founded upon facts which I believe incontestible. Perhaps I may one day have leisure to compose a work upon this subject."

40. *Syphilis.*—M. Lagneau, one of the compilers of the medical dictionary, has lately published the sixth edition of his practical treatise upon syphilitic diseases. He states the arguments of the new school, in favour of syphilis being a noncontagious, and consequently not a specific disease. He also sums up those on the ancient side of the question in the most definite and lucid manner, and it would seem, from the sketch in the archives, that he has set the subject for ever at rest, with all reasonable minds, and confirmed the ancient doctrine beyond all contradiction and dispute. He is also nearly as decided that, in general, no method of treatment is so safe and so certain, as the mercurial practice.

Archives Generales de Medicine, Paris, June, 1828.

1. *Anatomical and pathological researches.*—This is the second part of a memoir, upon what might properly be called *comparative pathology*, it being the production of Messrs. Trousseau and Leblanc, from observations made by them at the Veterinary institution at Montfaucon. The professors of these veterinary institutions of France, appear to be frequently very able anatom-

* In the reference to Miner and Tully on Fever, which has been made in this discussion at Paris, the word *sultry* is translated *suffocant*, a term by far too strong, and conveying a meaning never intended by Dr. Tully. The fact is, that the weather was the hottest of June, but very far from the extremely oppressive atmosphere of dog days. The air was dry and pure, but extremely hot.

ists, surgeons, and physicians, and by the accuracy with which they observe the diseases and lesions of horses and other animals, they are laying the foundation of a system of *comparative* physiology and pathology, which bids fair to elucidate many of the obscurities with which the intricate subjects of human physiology and pathology are still surrounded. This ingenious and able memoir scarcely admits of analysis or abridgment.

2. *Phlegmonous tumours of the right iliac fossa.*—Dr. Meniere in this memoir, treats of tumours of the right iliac fossa, which proceed from an acute or chronic inflammation of the ileocœcal mucous membrane. They are distinguished from indolent, scrofulous, and other kinds of tumour, principally by the fever which attends them, and by the pain which is produced by slight pressure. His treatment consists in the application of leeches and emollient cataplasms over the tumour, mild enemata, and low diet.

3. *Organic changes of the cerebellum.*—Two cases are stated by Dr. Rennes of the military hospital of Strasburgh, in one of which, a tubercle of the size of a walnut, was found in the left hemisphere of the cerebellum; an extensive abscess was discovered in the same situation, in the second subject. In both cases, derangements were met with in the various contents of the cranuim. The symptoms previous to death are accurately noticed, but at a length too great for us to attempt to transcribe them.

These cases are followed by another, by Dr. Dufour, of Montargis, in which the eyes, countenance, and gait of the patient, when he first was presented to the hospital, appeared to indicate intoxication. It was however an affection of the brain, which had succeeded a malignant fever. After death, two ounces of a pure liquid were found in ventricles of the brain, and the whole cerebellum was tinged with a rose colour.

4. *Softening of the brain—tubercles of the brain.*—Several cases of the former are extracted from the inaugural thesis of M. Schedel. The cases of tubercles are communicated by M. Dufour. Such cases scarcely admit of abridgment.

5. *Epidemic of Groningen.*—Dr. Fricke's report is concluded in this number.

GENERAL REVIEW, OR SECTIONS FROM OTHER JOURNALS.

6. *Perspiration after death.*—Professor Speranza, of Italy, had a case of encephalitis, in a young woman who died on the fourth day. Twelve hours after death, the corpse was covered with an abundant sweat, and the surface was warm. At the end of twenty-four hours, the body was cold, but the face and neck were still covered with moisture, though the skin had frequently been wiped dry. The professor found several such cases on record.

7. *Stomach terminating in a culdesac.*—An infant within six hours of its birth, was taken with vomiting, which proved to be a real hematemesis, and continued by paroxsyms sixty hours, when the child died. The vomiting seemed to be unattended with pain or any disagreeable sensation. On opening the body, the stomach was found to be very large, and the pylorus emptied itself into another sac, which had no other opening except the pancreatic duct. There was no communication with the intestinal canal. Case by Dr. Crooks.

8. *Uterine and placentary vessels.*—M. Biancini, by a series of experiments, has succeeded in passing injections from the uterine arteries into the vessels of the placenta. An injection into the aorta above the iliac, discovered the flexuous arteries continued with those of the uterus, which by their free and open extremeties, had suffered the matter to transude to the surface of the membrane which lines the uterus (*decidua*).

9. *Rumination.*—M. Riche of Mauburge, informs M. Broussais, that a young man, seventeen years old, for eight years past, has had his food rise into his mouth within about half an hour after a meal. This is masticated again and swallowed. When by voluntary effort, or by smoking, he prevents the food from rising, he experiences pain in the region of the stomach. He is continually hungry, and eats both animal and vegetable food, but still enjoys health.

10. *Electricity of the blood, urine and bile.*—M. Bellingeri has undertaken a series of experiments, to ascertain the quantity of electricity of these fluids. In the blood of several animals, he finds the degree of electrity to be equal or superior to that of iron.

11. *Deviation of the last molar tooth.*—Some very ingenious remarks upon the difficulties which occasionally arise from the *dentes sapientiæ*, are inserted. Our limits do not admit of transcribing them.

12. *Bite of the tarantula.*—Case by Dr. Spizini. Morrona, of Morano in Calabria, twenty years old, of a constitution rather irritable, while loading some bundles of flax, upon one of them perceived two insects resembling a large spider, one of them, according to him, was of many colours, and of a beautiful aspect, while the other was of a blackish tinge. He gave no more attention to them, and continued his work. But he had scarcely begun to grasp the bundles of flax, before he felt a very sharp and burning pain in his wrist. Examining the painful point, he observed no bite, and found only a drop of an aqueous liquid of a palish yellow, to which he attributed the sharp pain just experienced, and he wiped off the drop with his handkerchief. Meantime, spasms, attended with a very painful sensation of drawing, were developed with the rapidity of lightning, from the wrist to the armpit, and to the knee of the same side, and finally, through all the opposite side. Soon he was unable to stand, and fell to the ground. A convulsive state and intolerable pain pervaded the whole body. The skin was moist with a cold sweat, and a similar serous liquid run from the nostrils. The abdomen became considerably tympanitic. Two hours after sunset, his companions carried him to Morano, and a surgeon applied, without success, the actual cautery to the place where the venom had been deposited. After this, Morrona was placed under the care of an empiric, who enveloped him in a covering of wool, and put him into a bath of wine in which certain plants had been boiled; among them were rosemary and the *acanthus mollis* of Linnæus. By this process he was cured.

Vicenzo Vena, another inhabitant of Morano, aged forty years, was also bitten upon the wrist by an insect, which was killed, and ascertained to be a tarantula. As in the preceding case, a very sharp pain was immediately felt, extending from the place of the bite to the corresponding armpit. But, the passage of the pain was in a line, the skin over which very soon became yellow. There was no pain in the other parts of the body. The patient, agitated with continual convulsive movements, could with difficulty remain tranquil. The same empiric employed the same treatment in this case, which effected a cure in three days. M. Spizini adds, that the acanthus mollis is equally serviceable in the bite of the viper." [We recollect that there is a very interesting case of the bite of a spider, in one of the early volumes of the New York Medical Repository, by Joseph Comstock, M. D. now of Lebanon, Connecticut.]

13. *Polypus of the heart.*—M. Rigacci discovered in the left ventricle of the heart of a woman, who had died of symptoms resembling an aneurism of that organ, a body of a fleshy appearance, resembling a common fleshy polypus.

14. *Retention of urine.*—In a case of retention of urine, which the catheter could not relieve, on account of an immense coagulum of blood, that

pressed upon the neck of the bladder and kept the urine behind it. Mathieu injected *boiling water* (!!!) through the catheter, without its adding to the sufferings of the patient. By a long catheter, he by degrees broke the clot into pieces, and by repeated injections of tepid water and barley water with honey, in about three weeks the whole of the mass was apparently removed, and the urine became limpid. The paralysis of the bladder, however, which was the cause of a part or the whole of the complaint, continued, so that the catheter was necessary to be used daily till the death of the patient, which occurred eight years after the suppression. This was the case of M. Binet, a notary.

15. *Mercurial pediluvium in syphilis.*—Dr. Verducci substitutes a foot bath of corrosive sublimate, instead of the common method of administering mercury, in syphilis. He dissolves forty-eight grains of corrosive sublimate in a mixture of an ounce of alcohol and a pound of distilled water. A fifth or sixth of this solution is added to a sufficient quantity of tepid water in a proper vessel for bathing the feet. Warm water should be occasionally added during the bathing, to keep up a proper and agreeable temperature, and the feet should be continued in the bath half an hour at a time. A bad case is mentioned, which was cured after a trial of the foot bath, ten or twelve days. How often the pediluvium is to be repeated is not stated but we presume, it is once in twenty-four hours, at bed-time.

16. *Prussiate of iron in intermittent.*—Dr. Hollikoster prefers this article to sulphate of quinine or cinchona in intermittents. He gives three times a-day, a powder composed of hydrocyanite of iron and sugar, eighteen grains each. He administers it either during the exascerbation, or the apyrexia, and says it answers well in either case, and does not oppress the stomach. Smaller doses often answer, and relapses are not so common as after cinchona.

ROYAL ACADEMY OF MEDICINE.

We do not notice any thing in the account of the several *sections* of this institution, in the present number, of such high importance as to require transcribing, though the reports and debates of the academy are always a matter of interest.

A notice of the late M. Georget follows; and the number concludes with a bibliographical account of Meckel's "*General Treatise upon Comparative Anatomy,*" which Messrs. Reister and Simeon have lately translated from German into French. The work is in seven volumes, of which two only have been as yet published in Paris.

The London Medical and Surgical Journal, including the London Medical Repository, &c. &c. from July to November, 1823.

It will be recollected that in our previous numbers, we have presented analyses of the London Medical Repository; the title of the work has been changed to that which appears as the heading of the article, and its editorial department has been transferred to the care of John Davies, Esq. John Epps, M. D. and Joseph Houlton, Esq. Under the auspices of these gentlemen, a very marked and decided improvement has taken place, and from an examination of the numbers before us, we expect to select from its pages much valuable information. We take occasion in this place, to express our best wishes for its success.

1. *Anatomy.*—The first article contains some observations on the means of removing the aversion existing in the public mind to anatomical pur-

suits, by a member of the college of surgeons. This is a subject of very considerable importance to some sections of our country, more particularly in the eastern states. We should be rejoiced if some measures could be adopted to secure them the advantages we possess. Some of the remarks in the paper alluded to, are sensible, but on the whole we are not disposed to agree with the writer. Any suggestions on this subject we may meet with, that would tend to aid in removing the obstacles presented in some parts of our country to the pursuit of anatomy, we shall be glad to communicate.

2. *Ductus Communis.*—Mr. Houlton mentions a case of jaundice, published in the Medical Gazette, in which the writer alludes to the peculiar appearance of the ductus communis choledocus, which he attributes to disease. Mr. H. has met with the same appearance where no disease existed, and seems to think this form is common to the part. He says, "After examining the body, I removed the gall bladder, with the cystic and hepatic ducts, the ductus communis choledochus, and a part of the duodenum, for the purpose of demonstration. I found the projection common to the ductus communis and ductus pancreaticus, in the duodenum, very strongly marked, forming an hemispherical eminence, in the summit of which the aperture was situated. This aperture was of a size just sufficient to admit a small probe."

3. *Iodine in Dyspepsia.*—One of the correspondents of this journal, in a short article "on the injurious effects of purgatives, frequently repeated, in simple stomach disorders," alludes to that train of dyspeptic symptoms, which is not unfrequently experienced by those, whose habits are studious or sedentary, in which purgatives oft repeated, never fail to do harm, and says that "in addition to small doses of blue-pill, or hydrargyrum cum creta, at bed time, and a little vegetable aperient, combined with aromatics, occasionally, I have found small doses of tinct. iodinæ, given twice a-day, in some aromatic water, to act more beneficially than any other remedy I have ever tried in these complaints. The effects derived from this medicine are permanent. I have also found cubebs to produce very beneficial effects in dyspepsia attended by flatulence at the stomach."

4. *Colica Pictonum.*—A case of this disease is furnished by James Copeland, M. D. illustrative of the mode of treatment, he usually adopts in cases of this description, with such modifications as particular circumstances may suggest.

"23*d March*, 1828, *one o'clock, p. m.*—The patient is of a spare habit of body, sanguineous temperament, fair complexion, and about forty years of age. He complains of very urgent pain of the abdomen, increased in paroxysms of great severity, and shooting to the back, loins, and limbs, with extreme distention and tenderness of the whole belly. The tenderness and distention are particularly remarkable about the cœcum, and transverse arch of the colon; also about the sigmoid flexure of this viscus. His bowels have not been evacuated for several days. Medicines and every thing else have been thrown off, as soon as received into his stomach. The retching is at present very urgent, and the distress occasioned by it, is greatly increased by flatulent distention, and frequent, but difficult, eructations. He was blooded yesterday to the extent of about twenty ounces, without further relief than in reducing the volume of pulse; and enemata have been administered, but have been returned without benefit. Mr. Barnwell very judiciously prescribed an injection with the oil of turpentine, but it immediately came away without producing any effect. The urine is extremely scanty and thick. Tongue deeply furred, and coated with a thick, dirty mucus. Pulse at present 126, very soft and weak. Complains of great debility, anxiety at the epigastrium and præcordia, and general distress, with

pains in the lower limbs, and paralytic tremors of the arms and hands. Countenance anxious and collapsed. He has not enjoyed any sleep: has experienced several attacks similar to the present, but none nearly so severe.

℞. Hydrarg. Submur. gr. xx.
Camphoræ rasæ, gr. v.
Opii puri gr. jss.
Conserv. Rosarum, q. s. M.

Fiat bolus statim glutiendus; et, horas post tres, habeat haustum sequentem.

℞. Olei Terebinthinæ,
—— Ricini, āā ℥ss.
Aquæ Menthæ Piper. ℥iss. M.

Fiat haustus ut supra capiendus.

℞. Mist. Camphoræ, ℥vjss.
Magnes. Sulphatis, ℥j.
Tinct. Sennæ, ℥ss.
—— Jalapæ, ℥ijss.
Spirit. Æther. Sulp. Comp. ℥iij.
Olei Caryophyll. gtt. iv. M.

Fiat mist. cujus capiat cochlearia iij. ampla tertia quâque horâ. Primam habeat dosin horâ tertia post haustum supra præscriptum.

℞. Decocti Avenæ, ℥xij.
Olei Terebinthinæ, ℥j. M.

Fiat enema horâ septima *p. m.* injiciendum si non prius plenè soluta sit alvus.

"24*th*, 3 *o'clock*, *p. m.*—The bolus immediately allayed the irritability of the stomach, and the draught and mixture have been retained. The injection was also administered. The medicines have operated most copiously; two chamber-pots have been filled with watery, feculent, and pale discharges, containing hard lumps of hardened feces. He has passed much more urine. The abdomen is very much reduced in size, and much less tense. There is still slight tenderness, especially about the epigastrium and transverse arch of the colon—pulse 104—tongue still much loaded—some thirst—no sickness, and much less anxiety—there is a slight return of appetite.

Repetatur bolus horâ somni, et continatur mistura.

℞. Linimenti Terebinthinæ,
——— Camphoræ Comp.
——— Saponis cum Opii, āā ℥j. M.

Fiat linimentum cum quo illinatur abdomen ter, quaterve quotidie.

Sago and arrow-root, or weak mutton-broth, if they be desired.

From this time the patient recovered rapidly. The calomel given in the bolus slightly affected his mouth. The bowels were copiously acted on for some days.

5. Colchicum Autumnale.—The following cautions respecting the use of the colchicum, from one whom the editors say, "has been upwards of 20 years actively engaged in the profession" will be found valuable.

"The unpleasant effects which occasionally follow the exhibition of colchicum, are, nausea and purging, with a feeling of general debility or sinking which the patient complains of, accompanied by a peculiar, moist, whitish fur upon the tongue, which I can scarcely describe; and a disagreeable taste in the mouth, also peculiar.

"I have never carried its exhibition further than the production of these symptoms; when they arise, I direct the patient to abstain from the medicine until they have subsided, and then, if the disease be not removed, its use is resumed cautiously, and in smaller doses. During the presence of the above named symptoms, the disease, for which the colchicum was given, generally

gives way, and I have never had occasion to have recourse to antidotes. After its use, tonics are very grateful to the patient.

"Colchicum produces very different effects in different constitutions; in some it purges severely; in others, the bowels become confined during its use. Our friend, R., had acute rheumatism affecting the diaphragm. I ordered him gutt. xxx of the tincture every five hours, in a little water; after three doses the pain abated materially; three doses more produced nausea, purging, and the other etceteras which I have mentioned; the medicine was left off for a time. When the effects had disappeared, a little uneasiness and pain being still felt, a few doses more, given cautiously at intervals, accomplished his cure. At the same time, a female patient was suffering under a severe attack of lumbago; she took the tincture in the same doses and intervals; the pain was relieved by a few doses, and she soon got well; but in this instance the bowels became confined under its use, and it was found necessary to administer a purgative to procure alvine evacuations. In both the above instances, at the time the patients commenced taking the medicine, the bowels were regular.

"As a general rule, I wish to have the bowels acting freely during the exhibition of colchicum, and if the remedy be not sufficient in itself to produce that effect, I unite it with the sulphate of magensia."

6. *Constipation.*—A case of this disease is given by one of the editors, Dr. Epps, to illustrate the great importance of persevering in the use of injections to effect a cure. The case is very satisfactory.

7. *Leontodon Taraxacum.*—Jos. Houlton, Esq., on the medical properties of the Dandelion, brings forward in its favor the testimony of Bergius, Pemberton, Wilson Philip, and Brand, who have severally used it in chronic inflammation and incipient derangement of the liver, in chronic derangement of the stomach, in indigestion, as a substitute for mercury, in cutaneous diseases, and as a diuretic.

We select the following in the words of Mr. H.

"In the month of March, the juice obtained from the bruised root by pressure is a thin, watery, and brownish fluid, weak in flavour, whilst that procured by the same process towards the end of summer is thick, opake, and cream-coloured; and, in a few minutes after being expressed, it sets to a much more solid consistence, becoming as thick as common paste; it is very bitter and saponaceous. This is the season in which I have chosen it for medical purposes, and from many years of observation upon this plant of disputed virtues, I have been led to a conviction that it has medicinal powers, varying essentially according to the time of the year in which it is gathered and the mode in which it is prepared.

"The extractum taraxaci, as commonly sold in the shops, I believe, has but very little virtue. I have myself taken more than one ounce *per diem*, of apparently good-looking article, without perceiving any sensible effect from it. If the juice be boiled, a very great change takes place in its sensible properties; it loses its bitter flavour, and forms a sweetish and ductile mass. The same is observed in an extract formed from an evaporated decoction, as ordered by the College. I cannot speak with much confidence of the virtues of the decoction of the roots. My observations on it have not led to a satisfactory result. It is, in fact, no easy task to determine with accuracy the medicinal powers of the less energetic agents in the materia medica.

"The most uniform and active preparation of this plant, I believe, may be obtained by carefully evaporating spontaneously* the expressed juice of

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"* This is effected by placing it in shallow vessels, exposed to a current of dry air, or if placed in a situation artificially warmed in wet seasons, a similar preparation will be produced, one pound of root yielding two ounces of extract.

the roots taken up in August and September. The extract formed in this manner I have found to be a valuable medicine, both in my own person and in practice, and have the concurrent testimony of practitioners of different departments of the profession who have used it with success. A physician, who had been long resident in India, observed to me, after taking some of the extract prepared as above stated, 'I have never before found any benefit from taraxacum.' It is a tenacious, saponaceous mass, not ductile; it keeps remarkably well if evaporated sufficiently. It is a valuable anodyne, deobstruent; slightly aperient and diuretic. In some cases of chronic diarrhœa it has soothed the bowels, and has given that relief which no other medicine was found to afford.

"In cases of chronic disorder of the digestive organs, not produced by intemperance, its efficacy is frequently very decided. In visceral derangements from intemperance I have not found it of much service, but in females, and other persons of sober habits and of studious and sedentary pursuits, it has been very beneficial, increasing the flow of bile, and allaying that uneasiness which the dyspeptic frequently experience about the hepatic region. If practitioners interested in the advancement of pharmacology and therapeutics, would employ the taraxacum in the form here proposed, I feel confident that a proper estimate of its virtues would be ascertained, and that the opinions of the filii apollinis would, respecting this medicine, cease to be discordant."

8. *Strangulated Hernia.*—J. J. Cribb, esq., surgeon, relates a singular case of strangulated hernia, the great peculiarity of which, was the almost entire absence of constitutional symptoms. The chief sources of danger in this complaint are, obstruction of the passage of the alimentary canal, and inflammation of the abdominal viscera: In the present case, neither of these existed; the symptoms were those of *inflammation of the contents of the hernial tumour alone.* It was decided in consultation, to attempt the reduction of the inflammation without the operation, and for five days the case appeared to be doing well under this treatment, when on the 6th, signs of mortification came on suddenly, and the patient died in a few days after.—On dissection it was found that a portion of omentum had been strangulated and sloughed off.

We consider this case useful and instructive, and agree most heartily with Mr. C., that failures in practice too frequently occur, the publication of which would afford more useful informations than that of many of our most brilliant successes.

9. *Ipecacuanha and Mercury.*—Dr. John Epps makes some judicious observations on the use of Ipecacuanha in combination with the preparations of mercury. We select the following:

"Having been called some time since to attend a very delicate lady, whose bowels were generally costive, and who, from this constipated state, had continual headach, nausea, indigestion, and was obliged to take strong purgatives to open the bowels, and having found that she had been taking Ext. Colocynthidis Comp. with Pil. Hydrargyri, without much effect, and with little relief of the unpleasant symptoms, I determined to try the following prescription:—℞. Pil. Hydrargyri, gr. xx. Pulv. Ipecacuanhæ, gr. iij. Pulv. Cinnamomi, gr. ij. M. bene, et ft. pilulæ quatuor: duæ hor. somni sumendæ, omni nocte.

"On calling the day after, she stated that the medicine had not acted much; but on the following day, I found, on enquiry, that very copious evacuations had been produced, and *without the slightest pain.* Upon this the lady laid particular stress, and stated that she never had taken medicine that acted so pleasantly and so completely before; and by the continued

use of these pills, with an occasional dose of castor oil, she was relieved of her unpleasant symptoms.

"This circumstance induced me frequently to use this combination, and I have found it invariably efficacious in those of weak habits who have a constipated state of the bowels therewith connected. Such a compound medicine is very useful in those cases too, where the patient has that peculiar yellowness and fulness of the opaque cornea, so characteristic of a deranged state of the digestive functions.

"I have since tried, in cases of children, the combination of Ipecacuanha with Calomel, with the same benefit; and so great have been the advantages from these medicines thus combined, that I sincerely recommend them to the attention of every practitioner."

10. *Premature Birth.*—Mr. Cribb relates a case of this kind attended with some uncommon circumstances.

"Mrs. R., aged about 40, was taken with labour, November 2d, 1827. She had been married fifteen or sixteen years, and has several living children, born in the course of a few years immediately succeeding her marriage. Her three or four pregnancies preceding the present had terminated in abortion, about the middle of the period of gestation. In the present instance she told me that she menstruated last on Easter Sunday, which was on the 15th of April, consequently even if she had become pregnant immediately after that period, she could not be advanced more than twenty-eight or twenty-nine weeks. The labour proceeded, and in a short time the ovum was expelled entire, the membranes, not having been ruptured, still enclosing the fœtus floating in the liquor amnii. On breaking them, the child was found alive, and it appeared perfectly formed, but from its diminutive size and premature birth, its life, it was expected, would soon terminate, as is usual in similar cases. To the surprise of every one, however, it continued to live, was able to swallow some gruel which was given it, and, a day or two after, to suck the breast of the mother, although its cry, or rather whine, was so feeble as scarcely to be heard the length of the room. As there was some probability of its life being preserved, I proposed to the parents, as a matter of curiosity, to ascertain its weight, but to this they at that time objected. The child is still living, and at the beginning of the present month (September), the parents informed me, that when it was six weeks old, they ascertained its weight to be (deducting the weight of the clothes) *two pounds two ounces;* that since that time they have regularly weighed it once a-week, and found it increase in various degrees; at present, being ten months old, its weight is twelve pounds. Although 'very weakly' its health has not been bad, and it is now able to stand for a short time when set against the seat of a chair, without any other support."

11. *Cherrattah.*—Mr. Baker makes some observations on the medicinal properties of *Cherrattah*, a plant which is held in high estimation by the natives of Bengal, and the European residents as a very efficacious deobstruent and stomachic medicine. It is considered a specific in that variety of dyspepsia, accompanied with, and, probably dependent on, sluggishness, or an overloaded state of the liver: It is given in decoction, infusion, and extract in the form of pills, and is prescribed by the Indian practitioners in cases of pulmonary consumption and scrofula; in the latter of which Mr. B. says he has frequently witnessed its efficacy. It is highly spoken of by Dr. Fleming, Dr. James Johnson and Mr. Addison.

ANALECTA.

1. Inflammation of the Placenta.—On this subject, M. Brachet has published a paper in a recent Number of the Journal General, which we shall here notice. M. B. remarks that this inflammation is equally dangerous to the mother and the fœtus. By intercepting or deranging the placental circulation, it may destroy the latter quickly, or lead to abortion. Where the phlogosis is not so extensive or intense as to destroy the life of the embryo, it may greatly injure its health and obstruct devolopment, by diminishing, more or less, the nutritive materials supplied by the mother. This inflammation is dangerous to the parent, because it may spread to the uterus, which is a serious consequence. Even in the induction of abortion, it is not devoid of danger to the mother. The causes of this placental inflammation are, blows on the abdomen, falls, shocks, violent contortions of the body, frights, strong mental emotions, &c. Inflammatory affections of the mother, and especially metritis, may also lead to placental inflammation. If, after the application of one or more of these causes, we find a pregnant woman complain of pains in the loins, coming on periodically, but never entirely ceasing, leaving in the intervals a dull and uneasy sensation, we may presume that there is placental inflammation in existence. In such case, abortion is imminent—or, if this do not take place, the life of the fœtus is in danger. We cannot be too early in our endeavours to remedy the evil; and as, in all other inflammations of parenchymatous structures, blood-letting is the most effectual measure. But timid depletion will not succeed. The patient should be kept in the horizontal position, and a large quantity of blood should be detracted. To quietude, position, and venesection, cold drink should be added. But it is not sufficient to remove the more urgent symptoms. Antiphlogistic measures should be continued, till all sense of weight, pain, or uneasiness, is removed from the loins or uterine region, in order that induration of the placenta, the consequence of chronic inflammation, may not succeed the acute form, and thus produce those troublesome adhesions of the placenta to the uterus, which require manual force for separation after delivery.

Dr. Brachet has no doubt that many morbid conditions of the placenta escape our notice, in consequence of the little attention that is paid to the examination of this part after its removal from the uterus.—*Johnson's Journal.*

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2. Instance of Obliteration of the Aorta opposite the Fourth Dorsal Vertebra. By Professor Meckel.—A Peasant, aged 35 years, previously in good health, robust, and well-made, was, all at once, on the 18th January, siezed with a sense of great debility, while carrying a sack of grain to market. He was carried to the hospital immediately. The symptoms of syncope and vertigo were dissipated in a few hours; to which succeeded gastric irritability, pain in the chest, total loss of appetite, bilious vomiting, the pulse remaining little altered. By the 6th day, the patient appeared to be completely cured—got up—and was walking about—but suddenly fell down dead.

Dissection. On opening the thorax, the pericardium was observed to be filled with black blood, occasioned by rupture of the right auricle, which was softened in its structure. The aorta ascendens was found to be too much dilated for injection from that point—and, therefore, ligatures were thrown on the left subclavian and carotid arteries, while the tube was fixed in the arteria innominata. The injection was considered to be unsuccessful, and as the subject had been designed for a demonstration, it was thrown aside. On opening the abdomen, afterwards, the vessels were seen injected, as were those of the lower extremities down to the feet. The

examination being prosecuted, they found the aorta, immediately below the arterial ligament, reduced to the size of a crow-quill, while a beautiful net-work of vessels was seen between the trunks, going off from the arch of the aorta, and the intercostals of the aorta descendens. The said intercostals were very much enlarged, and had produced grooves in the ribs. From this circumstance it was inferred, that the obliteration of the aorta was an affection of long standing, and could not possibly have dated from the late attack of syncope, six days previously. The man must, therefore, have not only survived the cause of the obliteration, whatever it was, but lived in good health for many years afterwards. On inquiry, all that could be learnt, was, that this man had been very often ill in his youth; but afterwards had grown up strong and muscular.—*Journal Complementaire.*

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3. Homicidal and Infanticidal Monomania.—The following melancholy and remarkable cases are recorded by Professor Outrepont of Wurtzburg, in a late German Journal.

Case 1. The individual was a surgeon who had served in several campaigns against the French, and who afterwards studied midwifery under the aforesaid Professor. He always appeared of a lively and cheerful disposition, till certain pecuniary matters ruffled his temper and rendered him thoughtful and melancholy. He was now frequently observed to be studying the Scriptures, and reciting passages from the Bible. He was happily married, and had four children. One morning he summoned his wife and children into the court-yard of his house, and there informed them that it was his intention to destroy them all, and afterwards himself! He descanted coolly on the propriety of homicide, and told his wife she must first be a spectatress of the destruction of her children, and then her own turn would come. The woman appears to have been possessed of great presence of mind, and acted with great prudence on such a trying occasion. She entirely coincided in the justness of her husband's sentiments, and cheerfully agreed to the proposed tragedy. But she appeared suddenly to recollect that it would be proper for herself as well as her children, to confess and take the sacrament, previously to appearing before their final judge—a ceremony which would necessarily require several days preparation. The monomaniac replied that this was a reasonable and proper procedure; but, in the mean time, it would be absolutely necessary that he took some person's life that day. For the purpose of effecting this, he instantly set off for Salzbourg. His wife, having placed the children in security, made the best of her way to the above-mentioned town, and went directly to Professor O. the friend of her husband, for advice. The monomaniac had already been there, and not finding the Professor at home, had gone away. The woman now recollected, and told the Professor, that her husband had threatened *his* life, for some imaginary slight which he had experienced; but, at that time, she thought he was in jest. About mid-day, the monomaniac came back to the Professor's residence, and appeared quite calm and peaceable. The Professor invited him to go and see the hospital of the town, where he had a curious dissection to make, and they sat down to eat some refreshments before proceeding thither. At this repast, the monomaniac informed his host that he had lately been most immoderately disposed to commit homicide—and that he had actually murdered a peasant that morning on his way to the town! He confessed also that he had entered a coffee-house for the purpose of committing a second act of this kind, but had been diverted from his purpose. The murder of the peasant was a fiction, as was afterwards proved. The Professor now turned the discourse to other subjects—and on all other topics the monomaniac was perfectly rational. They now set off for the hospital, and in their way thither, the monomaniac met with an old acquaintance and fellow-campaigner. While they were greeting each other, the monomaniac suddenly struck his friend a violent blow on the pit of the stomach, exclaiming, in a burst of laughter, that he had done for him, as he had hit the cœliac plexus! The Professor reprimanded him in strong terms for this dishonourable and cruel act, at which the monomaniac was much surprised—and informed his preceptor that he was irresistibly led to commit homicide, and cared not who was the victim of this propensity. The Professor now asked him somewhat tauntingly, if he had not a design against *his* life? The monomaniac acknowledged it; but added that he had suf-

ficient control over himself to prevent the destruction of his benefactor. The Professor took his arm, and they proceeded to the hospital, where the monomaniac was immediately confined. He almost instantly became furiously maniacal, and, in a few months afterwards died.

Another case is related by the same author, which merits the attention of the medico-legal inquirer.

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Case 2. A female who was received into the Lying-in-hospital, to which our author was chief accoucheur, requested a private conference with the doctor previously to her accouchment. She appeared in a state of great agitation and embarrassment, and presented many of those phenomena which usher in the *mania post partum*. When the attendants were all withdrawn, she begged earnestly that Dr. O. would not leave her in the same chamber with other women and their *infants*, as it would be utterly impossible for her to resist the propensity she felt to destroy the *latter*. Her request was granted, and she was very attentively watched. Her delivery was easy, and the child was kept from her, and afterwards sent to her mother. The young woman, on leaving the hospital, went as a servant in the town, and would not return to her mother's house, lest she should be tempted to destroy her infant. She declared that the sight of a very young infant kindled up an irresistible propensity to destroy its life. This young woman was a peasant, who had been seduced, and who had never led a dissolute life, or was, in any way, of corrupt manners. She had not received any reproaches or ill treatment from her parents, during pregnancy—nor was there the least cause for anxiety on account of the child, as her mother had engaged to provide for it. In fact, our author could discover no tangible cause for this infanticidal disposition. She entered into the service of a clergyman, and enjoyed good health. Some time afterwards our author questioned her on the above subject, and she informed him that she had nearly lost all propensity to infanticide. We have no doubt that it is in this way many cases of infanticide occur, where verdicts are given against the mother by an ignorant and prejudiced jury.—*Johnson's Journal.*

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4. Hospital Report of M. Chomel, from La Charité, between the 1st of February and the 1st September, 1827. Reported by M. De Lagarde.—Rev. Med.

1. Peripneumony. The total number of cases [of all kinds] treated in the above periods are 281, of whom 39 died. The proportion of acute diseases was greater than usual, as compared with the chronic. To show how uncertain is the ratio of mortality in the same disease at different periods, we may remark, that out of 18 cases of peripneumony, occurring in the spring quarter of the above period, six died—while in an equal number of peripneumonies occurring in the Summer, there was not a single death. The treatment adopted by M. Chomel (who is an excellent practitioner) was active depletion, adapted to the violence of the symptoms and strength of the patient. But although this treatment was put in force, even from the earliest dawn of the inflammation, the latter could not always be checked; but pursued its course to a fatal termination. Large doses of antimony were tried in some cases, with success—in others, without good effects.

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2. Intermittents. Twenty-four patients labouring under intermittent fever were admitted during the half-year. The types were various, and some were complicated with slight inflammations, not requiring any active treatment. A few days were always allowed to pass before the febrifuge was administered. In eleven cases, the cure was spontaneous, without any medicine, and merely from change of scene and proper diet. When the ague resisted this process, the quinine was given in doses of not less than six grains in the 24 hours, with complete success.

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3. Aneurism. One case of aneurism of the arch of the aorta, with pulsating tumour below the left clavicle presented itself. The patient was a washerwoman, aged 38 years. The plan of Valsalva was tried, but without success, and

the patient left the hospital, tired out with the starvation and depletion which she underwent there, without any apparent benefit.

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4. GASTRIC COMPLAINTS. Several patients labouring under derangements of the stomach [embarras gastrique] were treated during the semestre. Many were cured by low diet, repose, and acidulated drink. In some cases it was necessary to prescribe emetics. In a certain proportion of cases, these were extremely serviceable, and removed the symptoms very quickly—in others, the emetics were injurious—"a fact which proves that stomach affections are not all of the same nature, and to be cured by a routine treatment."

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5. ACUTE RHEUMATISM. Most of these cases were managed by gentle antiphlogistics and low diet, requiring from two to four weeks for cure. In one case, which was very severe, and where almost all the joints were swelled and inflamed, the large doses of tartar-emetic were employed (six grains a day) without much, indeed with scarcely any good effect. The TOLERANCE (a term applied to the period when the antimony ceases to cause sickness) was established on the second day; but little or no progress was made, the rheumatic inflammation rather shifting its seat than quitting its hold. After a month's sojourn in the hospital, the patient went away, by no means cured. It does not appear that our Gallic neighbours venture much on bark, arsenic, mercury, or other heroic remedies in this distressing disease.

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6. AMENORRŒA. The general practice in France is to apply fifteen or twenty leeches to the pudendum. M. Chomel prefers applying three or four daily, for five or six days, at the expected menstrual periods, in order to imitate more nearly the process of nature. Previously to the expected epoch, he orders cupping-glasses (dry) to the upper and inner part of the thighs, and warm vapour baths to the lower part of the body.

We shall now proceed to analyse some of the cases detailed in this report.

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7. PNEUMONIA CARDITIS. A plumber, aged 40 years, previously strong and healthy, with the exception of some catarrhal affections, felt a shiver, on the evening of the 6th February, 1827, followed by pain in his right side. He went to work the next day, but on the 3d he was obliged to take his bed. On the 10th Feb. he entered the hospital. Below the right nipple there was acute pain, increased by deep inspiration, with inability to lie on that side. The cough was frequent, the expectoration free and mucous, the sound, on percussion, rather dull, even on the left side. In the right side of the chest the "rale sonore" and the "rale crepitant" were heard in several points. In the posterior portions of lung, in this side, the respiration was pretty natural. In the *left* side the respiration was every where heard. He had been bled the preceding evening, and the blood was highly inflamed. Fifteen leeches to the side affected. Ptisans. 11th. Little alteration. Venesection to ʒxij. was ordered, but not carried into effect. 12th. The symptoms are exasperated, and the sonorous wheeze is heard in the left side of the chest. Bled to twelve ounces. 13th. No diminution of the symptoms—blood not much inflamed. To take six grains of tartar-emetic in the next twenty-fours, in an emulsion. 14th. The patient is more quiet—no alteration in the state of the chest, as indicated by auscultation—four stools from the antimony, but no sickness. Tongue natural—no tenderness at the epigastrium. The antimony to be repeated. 15th. The countenance more sunken. Has had two stools. The antimony to be increased to twelve grains. 16th. Very obscure in the region of the heart, on percussion—respiration very quick—cough and expectoration the same—no stools, no vomiting—pulse 108, and irregular—great debility. Tartar-emetic to be increased to 24 grains. 17th. Had abundant perspiration last night—scarcely any respiration to be heard in the front of the left side. Antimony increased to 36 grains.

We need not pursue the case any farther. The patient died on the 20th of the same month.

Dissection. There was no diseased appearance in the head. The left lung was everywhere adherent, and the superior three-fourths of that lung were hepatized—the inferior portions not quite so, but approaching to that state. The right lung presented the different degrees of hepatization. There was some ulceration in the mucous membrane of the larynx, about the glottis. There was pericarditis, and considerable effusion into the cavity of the pericardium, of almost a purulent fluid. The whole of the heart was covered with false membranes from a line to two lines in thickness. There were several small ulcerations, and other marks of inflammation in the mucous membrane of the œsophagus, stomach, and intestines.

Reflections. M. Chomel evidently anticipates the remark that depletion was too sparingly employed at the commencement of this disease. He excuses himself by observing that the two general bleedings produced no mitigation of the symptoms. But what are two bleedings of twelve ounces each? Double the quantity would have been a great deal too little. Besides, the day that was allowed to elapse between the first and second bleeding, was a fatal neglect. Bis dat qui dat cito. But M. Chomel, or his reporter, tells us that, in the same ward, a few days previously, a man had been attacked with pneumonia, and was very vigorously depleted from the beginning, yet still the inflammation went on to a fatal issue. Hence he concludes that there was something specific or malignant in the peripneumonies of the Spring of 1827. There might be so; but we question whether either of these cases presented any just grounds for not carrying depletion to a much greater extent, without extending to any thing but the disorganizating inflammation that was evidently advancing daily on a vital organ.

Whether the large quantities of tartarized antimony which were swallowed during the illness, without producing either vomiting or purging, had any thing to do with the ulceration and inflammation observed in the primæ viæ, we will not pretend to say, since much greater devastations are seen where no medicine of this kind has been administered. But, considering the effects which this substance produces on the external surface, we should not wonder if a corresponding degree of irritation might not be produced by such large exhibitions internally. We shall make room for one more case.

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8. Mollescence of the Coats of the Stomach. A married woman, aged 22 years, who had had one child, became troubled with a considerable mænorrhagia in the beginning of the year 1827, at which period she was also exposed to several moral emotions of a distressing nature. Nevertheless she became pregnant, and experienced almost constant malaise—anorexia—thirst—tenderness at the epigastrium after eating—and, finally, vomiting of yellow and bitter matters. It was three days after the commencement of these more serious symptoms that she entered La Charite, viz. on the 24th May 1827. The expression of the countenance was natural, as was the state of the skin and tongue—the pulse was scarcely quickened—thirst very moderate—epigastrium very tender on pressure, but the abdomen soft and indolent. Each day she had ten or twelve vomitings of bilious matters, with some streaks of blood—stools regular. Leeches were applied to the epigastrium, and fomentations, lavements, diluents, &c. were employed, but without success. The vomiting continued—the tenderness of the epigastrium increased—the tongue was sometimes red, or shining—sometimes natural. Opium, for a time diminished the sickness, but ultimately failed. On the 24th June, the sickness suddenly ceased—and the epigastric pain vanished entirely. But debility and emaciation advanced, and she expired on the 9th July, no vomiting having occured for a fortnight before dissolution.

Dissection. On opening the abdomen, the stomach was found torn from the cardiac orifice to about the middle of its anterior surface; but without any extravasation into the abdomen. A great portion of the mucous membrane of this organ was completely destroyed, and some parts of the muscular and peritoneal coverings were so soft and thin as to be ruptured almost by handling them. There were only a few red patches in the mucous membrane of the intestines. The uterus contained a fœtus of three months.

5. HYDROCEPHALUS EXTERNUS CURED BY AN OPERATION.*—K. Muller, aged ten months, was received into the hospital of St. Jules, under the care of Professor Textor, presenting the following appearance; on the great fontanelle there was a soft, elastic tumour, which was first observed seven weeks after the birth of the child, and which, from the size of a common pea, had attained that of a goose's egg. The tumour was shining and transparent, large at the base, and did not recede on pressure. Its colour and temperature were the same as those of the surrounding parts. The parents of the child said that the tumour had never been inflamed; nor had there been any pain or throbbing attending it. The child bore it to be pressed without indicating any sign of suffering. For some weeks before he was brought to the hospital, the bowels had been constipated, and he manifested slight signs of convulsions. Drs Muller, Schonlein and Textor considered the tumour to be a partial external hydrocephalus; and they resolved to treat it by small, repeated punctures. On the 13th of March, the most prominent part of the tumour was punctured by a lancet-pointed cataract needle, which gave issue to a great quantity of perfectly limpid serum. When the cavity was supposed to be about half emptied, the wound was closed by adhesive plaster. During the operation, the little patient indicated no sign of pain, nor did any symptoms ensue.—April 27th. No accident has occurred, the tumour has not sensibly increased since the operation. It was now punctured a second time, and the greatest part of its contents abstracted; the fluid exactly resembled that which was before discharged; the child preserved perfect health.—May 14th, a third puncture was made, and the tumour was apparently quite emptied. Immediately after, the child had a slight fit of convulsion, which lasted about half an hour, but which did not return up to the time of the fourth and last puncture, which was made on the 21st of July. The tumour, although completely emptied of its fluid, appeared still to contain something. After enlarging the small aperture with a lancet, there issued, on slight pressure and friction being applied, about a table spoonful of a soft, pulpy mass resembling boiled rice. A piece of lint was then introduced into, and left in the wound. The child did not indicate any symptom of suffering during the operation.—27th. The wound is converted into a kind of small fistula.—August 1st. The little patient had, without any known cause, some slight convulsions and vomitings, which, however, ceased after the administration of a mixture of a syrup of mallow and diacodium.—3rd. The fistulous opening leads into the hollow cavity which contained the fluid; this cavity was now filled with lint, which was allowed to remain in until the 6th: on removing it there issued with the pus a great quantity of coagulated blood. By the 17th, the cicatrization of the wound was perfect; and there was no appearance of a fresh collection of fluid taking place. In fine, the child never had any return of the complaint.

6. ABSENCE OF THE UTERUS.†—Ag. Melassene, aged twenty-seven years, applied to M. Dupuytren, on the 24th of February, 1823, requesting to be admitted into the Hotel-Dieu. She had a fistula in ano. The physician who sent the patient to M. Dupuytren, to be operated on, said that her vagina was imperforate, and that she had no uterus. She herself said that she had never menstruated; that at certain periods she felt a heaviness in the head, flushings and heat of the face, pains in the abdomen; all of which symptoms always disappeared on the application of leeches to the anus. The external genital parts appeared well formed; the pelvis was, perhaps, rather narrow, but the breasts were fully developed, and all the appearances announced the most complete feminine conformation. The finger, introduced into the vagina, was arrested, at about an inch deep, by a smooth, round, cul-de-sac; and nothing above this could be felt indicative of the presence of a uterus. There was nothing remarkable found in the vagina, excepting a very great dilatation of the urethra. The finger introduced into the rectum did not feel any thing like a uterus. The patient was asked if she had ever felt any of the pleasures of love, and she answered in the negative, but that she had lived for four years in a state of concubinage, and was on the point of marrying. The patient was operated on for

* Journal des Progres. † Rep. d'Anatomie, &c.

the fistula on the 28th of February. The operation was most simple, but she died on the 15th of March, of acute inflammation of the liver.

Sectio Cadaveris.—Brain and its membranes healthy; old adhesions of the right pleura, and some purulent abscesses in the base of the right lung; slight hypertrophy of the left ventricle of the heart; and contraction of the aorta. The intestinal tube was healthy; the liver contained several abscesses, and its peritoneal covering was thickened. The right kidney presented a fibrous cyst, filled with a white, inodorous fluid. The clitoris and labia pudendi were fully developed; the vagina, about an inch in depth, terminated in a cul-de-sac; M. Dupuytren considered this falling in of the septum to be the effects of the efforts of coition; behind the cul-de-sac lay the rectum; above and behind the bladder were found the broad ligaments of the uterus, which contained, within their substance, fallopian tubes and ovaries well developed. There was no uterus to be found; but at the point of union of the two fallopian trumpets was discovered a small body, which presented neither a cavity nor a cul-de-sac, nor had it the least resemblance to a uterus.

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7. Discharge of a great number of Hydatids from the Palm of the Hand.*—The formation of hydatiform bodies in different parts of the body is one of the most curious and unaccountable phenomena of organic life. We may trace their process of development from the time when they are no larger than a mere speck, until they attain the magnitude of the fist, or perhaps of a child's head, but whence proceed the germs which determine their formation? and by what process do they obtain nourishment for their support? Are they possessed of an independent life; or do they owe their vitality to properties imparted from the parts which surround them in the body? Another question may be asked, namely, are they capable of propagating their species? or is their number determined by that of the original germs? These are questions more easily asked than answered by satisfactory proof. In our last number we inserted a case in which several hydatiform bodies were found in the substance of the breast: the following case, related by Dr. Maug, of Esslingen, is equally curious.

J. Wager, vine-dresser, aged twenty-eight years, of a scrofulous constitution, carried a tumour, six inches long and an inch and a half broad, for twelve months, on the palm of his right hand. It commenced forming towards the metacarpo-phalangien articulations of the ring and middle fingers; and it soon extended towards the palm of the hand, and from thence up to the middle of the fore-arm. The integuments presented no alteration. The tumour, perfectly free from pain, emitted a crackling sound on pressure. Its contents were easily moveable up and down or to either side, so as to render full half of it empty. An opening was made into the middle of the tumour, at the wrist, which gave exit to fifty hydatids, and about three ounces of inodorous serum. A probe penetrated easily forward to the articulations of the fingers, and upward under the annular ligament of the carpus. Continued pressure was now applied to the tumour, leaving the wound at the same time open, to allow any hydatids, which might still remain, to escape. In the course of eight days, there came away more than a hundred acephalocysts. The discharge of serosity having ceased, and the wound having been searched by a probe, and no more hydatids being found, an injection of red wine was thrown in, and strong pressure was applied over all the surface of the tumour. Adhesions took place in a short time at both extremities of the cavity; but as a little discharge of mucosity continued still to issue, the injection was repeated, and, in three weeks after, the patient was able to return to his work.

Two months after this, the patient had a catarrhal fever; the wound re-opened, and there issued from it about half an ounce of limpid serum without any hydatids. The injection was repeated, and it had the same success as before. No return of the disease took place, and the patient continued to enjoy perfect health at the end of more than a year after the last injection was used.

The bodies discharged from the tumour were regular, and, for the most part, cylindrical; the largest of them were about the size of kidney-beans; one of them

* N. Chir. t. ii. p. 377.

extremities was conical, and the other compressed in such a way that they appeared to have been situated one against the other in the form of a chain; they were soft, elastic, of a milky-white colour; and when crushed by strong pressure, they preserved their mass, and gave exit to a small quantity of limpid serosity which was contained in their cavity.—*Lond Med. and Surg. Journal.*

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8. Strangulated Hernia cured by the external application of belladonna.*—At two o'clock in the afternoon of the 26th of October, 1827, Dr. Magliari, of Naples, was called to a woman, about fifty years of age, who had been subject to hernia for many years; symptoms of strangulation had now been present for twenty hours. In vain had leeches been applied to the anus, emollient cataplasms to the hernial tumour, demi-lavements, and castor oil administered; the stomach rejected every thing presented to it. The incessant vomiting with which the patient was affected, had fatigued and reduced her very considerably. Nevertheless, M. Magliari, thinking he might defer the operation until the morrow (we know not what reason he had to think so from the above symptoms) omitted all the means previously employed, and ordered the tumour to be anointed with an ointment composed of ten grains of extract of belladonna and half an ounce of lard. He visited the patient again at six o'clock the same evening, and found that the ointment had been applied, but in so small a quantity that it had no effect on the symptoms. He then applied the ointment himself, and used about the half of it. On visiting his patient in the morning he found that the vomiting had ceased ever since the second application of the ointment, and that the tumour was now diminished in size. The hernia was not entirely returned into the abdomen, but the ring was dilated so much as to do away with all the pressure on the intestine. A few hours after, the hernia was all reduced.—*Ibid.*

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9. Medicinal Properties of the Bark of the Root of Ricinus Communis.—The bark of the root of the ricinus communis is a powerful purgative, and in conjunction with chillies and tobacco leaves, it forms an excellent remedy for gripes in horses; it is thus used in the West Indies.—*Medical Botany.*

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10. New Method of preserving Anatomical Preparations.—A cheap durable process, and one which clearly displays minute structure, has been published by Dr. Davy; it is simply sulphurous acid, which may be prepared in a manner equally economical and easy, by burning sulphur matches over water in any appropriate vessel, agitating the water when the match ceases to burn; when the water is sufficiently impregnated with the acid gas, it should be filtered, to render it clear and transparent. The best kind of match for this purpose is that which is used in Italy, made by dipping cotton-thread in melted sulphur. —*Ed. Med. Chir. Trans.* Vol. III.

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11. Solanum Dulcamara used externally.—The juice of the ripe berries of the solanum dulcamara, or woody night shade, is said to possess much efficacy in cutaneous diseases of the scalp, such as the different forms of porrigo; it is used mixed with common white ointment, and applied night and morning.

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12. Purgative property of Convolvulus Sepium.—Twenty pounds of the root of this plant, gathered in April, yielded one pound, twelve ounces, avordupois, of watery extract, which, in doses of from fifteen to twenty grains, acted freely on the bowels. Haller affirms, that the expressed juice of this herb, taken in the dose of twenty or thirty grains, possesses the virtues of scammony; and hence it is sometimes called German scammony.—*Med. Botany.*

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13. Itch cured by Chloride of Lime.—Mr. Johnson, of Lynn, has cured a family of seven persons affected with scabies papaliformis by a bath formed of one part of Fincham's chloride of lime to six pints of water. They remained in the bath for ten minutes, this was repeated daily for six days, the disease was not felt by the patients after the second application.

* Obs. Med. di Napoli.

MEDICAL INTELLIGENCE.

1.—THE AMERICAN MEDICAL BENEVOLENT SOCIETY,

For Relief of the Widows and Orphans of deceased Physicians.

Few institutions have contributed more real good to the human family, than Benevolent Societies established in the various parts of the civilized world. Their usefulness to the distressed and unfortunate are too well known to require comment.

Our attention, in common with that of many of our professional brethren, has been excited to the above highly important subject, in consequence of the vast and daily increasing number of physicians in our country; did not the present time present us with many instances of widows and orphans of deceased physicians left in the greatest distress and poverty, perhaps the time is not far distant when such a state of things may be expected. Under this impression, we believe that a benevolent society, established for the relief of such individuals, would be erecting a splendid monument illustrative of the honourable feeling and liberality of the medical profession.

In conjunction with several of our medical friends we have determined to use our best endeavours to promote the establishment of a society for the above mentioned purpose—a sketch of the plan is now preparing, and will be laid before the profession with all convenient despatch. It is desirable the society should extend to every part of the United States; we shall be glad, therefore, to receive the opinions of the profession generally, as to their views of the best manner of establishing and conducting the institution, particularly as to the branches it might be necessary to establish. Information of this kind will no doubt be of much advantage to lay before a convention when called for the purpose of making final arrangements. Gentlemen who may be disposed to give their views on this subject, may address (post paid) the Editors of the American Medical Recorder, Philadelphia.

Editors of Journals and news-papers who may approve of the objects proposed by the Medical Benevolent Society, will please to give this notice an insertion in their respective papers. Editors Am. Med. Recorder,

Philadelphia, January, 1829.

2.—*Extract of a Letter from one of our Correspondents.*

Case of Injury of the Scull.—Whilst on my way last summer to visit a patient about twenty miles from town, I met a messenger who wished me to ride about twelve miles in another direction, to see a negro man who had been wounded in the head by a blow with an axe. I understood from him, that the man was able to walk about. I, therefore, did not go with him, but desired him to ride to town, and take one of my pupils with him.

On my return from the country, my student informed me that there was considerable depression of the negro's scull. I visited him, and upon an examination of the wound, found the frontal bone, about the middle of the left half portion, fractured, and a triangular piece, whose sides were about an inch in length depressed, one angle (quite sharp pointed) pressed in upon the brain at *least three eighths of an inch below* the sound portion of the bone. The man was able to go about, though he complained of head-ache when in the sun, or when he used much exercise, but had, without the knowledge of his master, walked two or three miles over a mountain, and returned home the night before I saw him, with little more inconvenience than a smart head-ache.

Having been an active fellow before, he was now dull and sleepy, and continued so a few weeks, when the external wound healed, except a small opening from which matter continued to issue, which, when closed, and matter collected, caused some pain and drowsiness. He, the last time I heard from him, was attending to his ordinary business on the farm.

The bone was so firmly wedged down, that I could not raise it without using more force than I thought prudent; and from the little apparent inconvenience the depression induced, I determined to do nothing more than dress it in the simplest manner—fearing that the injury I might do, would be greater than what the depression had already caused. When I last saw him the depression still continued.

January 14th, 1829.

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3.—CENTRAL MEDICAL SOCIETY OF GEORGIA.

Milledgeville, Georgia, December, 1828.

The Board of Physicians closed its annual session on the 6th inst. There were in all forty-four applicants for license, several having applied since our last notice. Out of this number forty were licensed to practise Medicine—twenty of whom received license on the presentation of diplomas,—and twenty, after presenting theses, and standing an examination.

Some members of the board, who were absent at the beginning of the session, sent in excuses, which were received.

Dr. John Walker, of Madison, Morgan county, was elected a member to fill the vacancy of Dr. Powell, who had forfeited his seat according to a bye-law of the Board—and Dr. Ignatius P. Garvin of Augusta, was elected in place of Dr. Baber, resigned.

The Central Medical Society closed its meetings on the evening of the 5th inst. —The most interesting communication read before the Society was on Malaria, or Miasma—its existence being altogether denied by the author, Dr. A. Jones, of Lexington, which gave rise to a great deal of discussion, which was continued for two evenings, without bringing it to a close.

The officers elected for the ensuing year, are as follows:

Dr. Henry Branham, President.
Dr. Thomas Hamilton, 1st V. President.
Dr. Benj. A. White, 2d do.
Dr. John Walker, Corr. Secretary.
Dr. A. Jones, Record. do.
Dr. Weems, Treasurer.
Dr. Gorman, of Milledgeville, Orator.

The following new members were elected, viz: Drs. Cooper, of Columbia, Lamar, of Macon, Joel Branham, of Putnam, Boswell, of Eatonton, Jones and Waddle, of Madison, and Waring, of Savannah.

A code of Medical Ethics, recommended for the government of the profession throughout the State, was reported by Dr. Walker, Chairman of a Committee, appointed last winter—It was amended, adopted, and ordered for publication.

The following resolution, on motion, was adopted.

Resolved, That the thanks of the Society be tendered to Dr. Jones, for his Oration, delivered before the Society, on Tuesday evening, 2d inst, and that a copy be requested for publication.

A communication from Dr. H Hull, was read before the Society, on an Endemic Jaundice, which lately prevailed in Athens.

The Society then adjourned till the 1st Monday in December, at 7 o' clock, P. M. 1829.

4.—MEDICAL ETHICS.

Adopted by the Central Medical Society of Georgia, at their session in Milledgeville, 1828.

The committee appointed by the "Central Medical Society of Georgia," at its last annual meeting in December, to prepare a code of medical ethics, deeply impressed with the importance and necessity of the undertaking, beg leave to make the following brief

REPORT:

The degraded condition of the Medical profession, not only in Georgia, but also in many other parts of our country, has long been a matter of deep regret to many of its most enlightened and honourable members; and although much of the time and talents of some of our most respectable brethren have been occupied in endeavouring to elevate its standard and dignify its character, it is much to be lamented, that they have not been more successful in their laudable attempts.

To enumerate all the causes which have retarded the progress of medicine, and added to its degradation, would transcend the limits to which the committee are necessarily obliged to confine themselves on the present occasion—yet they cannot avoid taking a cursory glance at a few of the more prominent. They shall therefore make a few remarks, in the following order:

1st. On the admission of members into the profession totally unqualified, from want of education, intellectual capacity, or moral rectitude.

2dly. The countenancing of empiricism, by prescribing and recommending those offsprings of fraud and ignorance, commonly called nostrums, or patent quack-medicines.

3dly. The dishonourable measures usually resorted to by a certain class of medical practitioners, to privately detract from the reputation of their better informed brethren, by throwing out illiberal, ungentlemanly, and unprofessional insinuations to persons who are not capable of appreciating medical merit.

On the importance of a classical education to the medical student, it is unnecessary to dwell; as it is a well established fact, that few men have ever become eminent in medicine, without some knowledge, at least, of the languages of Greece and Rome. An acquaintance with the French language has also become indispensable to the American physician, and and more especially of late years, since French medical literature has become so intimately blended with that of the U. States. In addition to those acquirements, a respectable knowledge of the different branches usually taught at our Academies, is absolutely necessary. That soundness of mind and purity of moral character, added to the aforesaid accomplishments, would be useful appendages, we presume, few persons will be disposed to question.

In making a few condensed remarks under the second head of our subject, we must assert, that the ignorance of the community in general on medical matters, holds out strong inducements to empirics and illegitimate pretenders, to impose on their credulity. For want of some acquaintance with the medical sciences, many of our enlightened citizens become the dupes of presumptuous ignorance, and are frequently induced to employ the illiterate braggadocio in preference to the regular physician. How can this evil be remedied, unless some acquaintance with the outlines of the medical sciences should be made a part of an academic education?

The human mind is naturally fond of that mystery which belongs to secret compositions, and a confidence is thereby inspired in their medical qualities, which would not be attached to any preparation, the composition of which might be generally known. The consumption of such articles is, moreover, much increased by the publication of all the cures which they are represented to have effected, while their disingenuous preparers studiously avoid any disclosure of their failures. We have no doubt but nostrums have frequently effected cures, either accidentally, or through the medium of the imagination; their exhibition, under any circumstances, however, is diametrically opposed to correct medical principles. In order to prescribe judiciously for any disease, the

scientific physician will be governed by the constitution of the patient, the stage and violence of the disease, (without paying any regard to its name,) the nature and extent of the sympathetic action which is exercised over particular organs, and the character of the prevailing disease. From these data, is it not evident that the medicinal agents which may be found successful in the treatment of one disease, might prove highly prejudicial, if not fatal, in what might be considered the same disease in others, owing to some peculiarity in its type, or idiosyncrasy of constitution?

Having now arrived at the third head of our subject, we shall barely observe, that the narrow minded system of detraction adopted by many medical practitioners, to enhance their own reputation, at the expense of that of their brethren, has largely contributed to degrade the once noble and honourable profession of medicine. To remedy this evil, the possession of a well cultivated mind and unexpectionable moral character in those who are admitted to the study of medicine, would, probably, be the most effectual preventive. In addition to this, the laying before the public generally, through the medium of all the newspapers of the country, the medical ethics, by which, not only all the most eminent and honourable physicians of the United States are governed, but also those of Great Britain and other countries, would, doubtless, have a salutary influence. To the medical ethics of Dr. Percival, the committee would observe, they are indebted for many of the hints contained in their present code. With these impressions, they beg leave to recommend them to the serious attention of the medical profession, and of the public in general.

1. It is the duty of every medical practitioner to treat his patients with steadiness, tenderness and humanity, and to make due allowances for that mental weakness which usually accompanies bodily disease. Secresy and delicacy should be strictly observed in all cases in which they may seem to be peculiarly required.

2. The strictest observance of temperance cannot be too strongly inculcated on the minds of the practitioners of medicine and surgery—a clear and vigorous intellect and a steady hand, being absolutely necessary to the successful practice of those branches of medical science.

3. Unfavourable prognostications should never be made in the presence of patients; yet, should there seem to be immediate danger, it becomes the duty of the medical attendant to apprise the patient's friends of that circumstance.

4. In every instance in which one physician has been called on to visit the patient of another, a consultation with the former medical attendant should be proposed. Consultations in difficult cases should always be recommended, and the physician called on for that purpose, should always pay the greatest degree of respect to the practitioner first employed, and allow *him* the privilege of delivering all the directions agreed upon.

5. Special consultations are sometimes wished for; in such cases, the physician called on should carefelly guard against paying another visit, unless he should be requested to continue his services by the patient, or some of his friends.

6. When one physician is called on to visit the patient of another in his absence, or during short indisposition, he should not manifest a wish to continue in attendance any longer than the physician first called on should be able to resume the charge of the case, unless a continuance of his services should be expressly wished for by the patient or his friends.

7. Physicians should not visit their patients too frequently, lest seeing them oftener than necessary might produce unsteadiness in the treatment.

8. Theoretical discussions should not be too freely indulged in consultations, as they frequently give rise to much perplexity, without any improvement in practice.

9. The junior physician in attendance should always deliver his opinion first, the others according to seniority, and a majority should decide; but in the event of a tie, the physician first in attendance should give the casting vote in regard to the future treatment, and to him should be intrusted the future man-

agement of the case, unless the patient or his relations should object to his being continued.

10. Although the possession of a diploma honourably acquired, furnishes presumptive evidence of professional ability, and entitles its possessor to pre-eminence in the profession, yet, the want of it should not exclude practitioners of experience and sound judgment from the fellowship and respect of the regular graduate.

11. In consultations, punctuality in meeting at the same time should be strictly observed, but the physician who first arrives, should wait for a reasonable length of time for the arrival of others. A minute examination of the patient, however, should not take place until one or more of the medical attendants are present, except in cases of emergency. All subsequent visits should, if practicable, be made by mutual agreement, and no medical discussions should take place in the presence of the patient.

12. Attendance on members of the profession or their families should always be gratuitous, but should not be officiously obtruded. Should the circumstances of the medical practitioner indisposed, well enable him to make a recompense for medical services rendered to himself, his wife or family, it is his duty to do so, especially if he reside at a distance.

13. When one medical practitioner is called on to visit a patient whose recovery has been despaired of by the physician first in attendance, and the disease should afterwards terminate fatally under his management, he should avoid insinuating to the friends of the deceased, that if he had been called on a day, or a few hours sooner, he could have effected a cure. Such a course of conduct is highly reprehensible, and empirical in the extreme. And, in the event of the patient's recovery, such a person should not assume all the credit, as the cure might have been partly effected by the medicines prescribed before he took charge of the case.

14. The use of nostrums and quack medicines should be discouraged by the faculty, as degrading to the profession, injurious to health, and often destructive of life. Should patients labouring under chronic complaints obstinately determine to have recourse to them, a reasonable degree of indulgence should be allowed to their credulity by the physician; but it is his sacred duty to warn them of the fallacy of their expectations, and the danger of the experiment, and the necessity of strict attention to the effect produced by them, in order that their bad effects, if any, should be timely obviated.

15. No physician should either by precept or example contribute to the circulation of a secret nostrum, whether it be his own invention and exclusive property, or that of another. For, if it be of real value, its concealment is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice.

16. In all cases where diversity of opinion and opposition of interest give rise to controversy or contention between two or more members of the profession, the decision should be referred to a sufficient number of physicians, as they are frequently the only persons in the community capable of properly estimating the merits of the dispute. But neither the subject litigated, nor the decision thereon, should be communicated to the public, as individual reputation might suffer, and the credit of the profession generally be injured.

17. A wealthy physician, or one retired from practice, should refuse to give gratuitous advice, unless the danger of the case (in the absence of the practising physician) or the poverty of the patient should warrant him in so doing. In all cases where he may be preferred, he should recommend a consultation with some one engaged in active practice. This rule should be strictly observed, as a contrary course is gratuitously depriving active industry of its proper reward.

18. When a physician is called on suddenly to visit the patient of another, in consequence of some unexpected or alarming change in the symptoms, he should adopt a temporary plan of treatment suited to present circumstances. He is not warranted in interfering afterwards, unless requested to take charge

of the case, when he should propose an immediate consultation with the physician previously employed.

19. Physicians should never neglect an opportunity of fortifying and promoting the good resolutions of patients suffering under the bad effects of intemperate lives and vicious conduct: and, in order that their councils and remonstrances may have due weight, it will readily be seen, that they should have full claim to the blameless life and high moral character which we have stated to be a necessary pre-requisite to an honourable stand in the profession.

20. Medical men should "remember the sabbath day to keep it holy;" and visits should, as far as consistent with professional engagements, be made either before or after public worship, or during its intervals.

☞ Editors who are favourable to the advancement of the cause of medical science, are requested to give the foregoing an insertion.

5.—VERMONT ACADEMY OF MEDICINE.

The annual commencement of this Institution, was holden at the College Building on Wednesday last. The following gentlemen received the degree of Doctor of Medicine—who also read and defended their several dissertations.

James Allen 2nd—*Icterus.*
Edward Brace—*Ecphronia.*
Isaac Branch, and James C. Brown, } *Forensic disputation on the circulation of the Blood.*
John F. Burdick—*Qualifications of Apothecaries.*
Robert B. Cram—*Marasmus Phthisis.*
Ira M. Frazier—*Physiology of Absorption.*
Amos A. Frisbie—*Medical Prejudice.*
Harmon Hurlbert—*Apoplexy.*
Algernon S. Lewis—*Inflammation.*
Franklin Moulton—*Diarrhœa.*
Horace Seaman—*Cold Bathing.*
Guy B. Shephard— ———
John Steele—*Hydrocephalus.*
Frederick Wheelock—*Tetanus.*
Lemuel B. Weeks—*Functions of the Nervous System.*

The honorary degree of M. D. was conferred on Caleb Burge, of Utica, N. Y. Elias T. Foote, of Chatauque Co. N. Y., and William Bidgelow, of Bennington

An address was delivered to the class by Wm. Tully, M. D. President of the faculty, which in its admonitory advice and practical remarks, evinced the strongest evidence of the independent man, the discriminating physician and scientific scholar.

It will be seen by the catalogue published, that one hundred and six students attended all the branches the last lecture term; and it gives us pleasure to say, that the institution was never in a more prosperous condition.

VACCINE INSTITUTION.

The vast increase and growing population of our country, and the great importance that ought to be paid to promote vaccination by every citizen of the United States has induced a number of medical gentlemen to enter into arrangements to establish a vaccine institution in Philadelphia, on the most liberal principles: one of whose objects will be to keep a regular supply of pure matter, at the publication office of the Medical Recorder, on such conditions as will no doubt meet the approbation of the profession. Physicians at a distance, particularly subscribers to the Medical Recorder, will find great advantage in having an opportunity of receiving matter with the journal, four times a year; besides, it will be transmitted much safer than in a letter. The particulars of this intended institution will be made known as early as possible. In the mean time, pure matter will be furnished, subject to the future regulations of the institution.—*August* 1826.

Agreeably to the above, arrangements were made in the early part of the fol-

lowing year to keep a constant supply of pure matter, and to furnish it at three dollars a *scab*. It was also suggested that a number of physicians, particularly in the country, might unite and subscribe ten dollars, for which a fresh scab would be sent four times a year, (once every three months in the Medical Recorder.) It is presumed this plan would furnish a regular supply to the whole neighbourhoods, at a very trifling expense, say from one to two dollars a year, as it is believed there would be no difficulty in finding from five to ten physicians residing within a short distance of each other in almost every part of the United States, and that one, or more of them takes the Medical Recorder.

The utility of such an institution to the profession and to the public will be readily appreciated.

Gentlemen embracing the above mentioned arrangements will transmit the amount of subscription at the time of subscribing—remittances may be made in the usual manner pointed out in the Recorder.

All communications, post paid, to be addressed to the Vaccine Institution, office of the Medical Recorder, Philadelphia.

JAMES WEBSTER, *Agent for the Institution.*

7.—NEW VACCINE REGULATION IN PHILADELPHIA.

The undersigned having been appointed vaccinating physicians, under a new ordinance of the select and common councils, respectfully announce to the medical public, that, in addition to their other duties, they will keep a constant supply of fresh, genuine vaccine virus for the accommodation of the profession. By a provision in the aforesaid ordinance, they are obliged to furnish the city practitioners gratuitously, which they will at all times do with great pleasure. But owing to the great demand for virus from all parts of the country, to which from their public position they will necessarily be subjected, they have determined, after free consultation with their medical friends, to require a small remuneration for the extra trouble which they will incur by this arrangement. Application therefore, (post paid) from any part of the United States, addressed to either of the undersigned, and enclosing three dollars, will meet with prompt attention.

David C. Skerrett, M. D. No. 153, S. Tenth street.
Wm. Carll Brewster, M. D. No. 150, S. Fifth street.

We cheerfully acquiesce in the above plan, and have no hesitation in stating our belief that the duties it proposes will be faithfully executed by the vaccinating physicians.

Philip S. Physick, M. D. N. Chapman, M. D. William Gibson, M. D. Thomas C. James, M. D. Isaac Hays, M. D. Thomas T. Hewson, M. D. W. E. Horner, M. D. Henry Neill, M. D. J. K. Mitchell, M. D. Thomas Harris, M. D.

Editors of other medical journals will please insert the above advertisement.

8.—PHILADELPHIA VACCINE INSTITUTION.

Established with the approbation of professors Physick, Chapman, James, Gibson and Coxe of the University of Pennsylvania, and doctors Hartshorne, Monges, and Hewson.

The subscribers to the above named institution, those practitioners, who have, for many years past, obtained their supplies of vaccine virus from the undersigned, and the profession generally, throughout the United States; are respectfully informed, that applications for vaccine virus, will continue to be attended to as usual, at all seasons of the year, and at one days notice by

JOSEPH G. NANCREDE, M. D. corner of Walnut and Tenth st.

9.—LACON'S VERBIFUGE.*

To Argus were given one hundred eyes; and his task was to watch a single living creature. How many organs of vision would he have required to watch the Press—that confluence of mighty rivers, which, collecting their innumerable tri-

* Medico-Chirurical Review for Oct. 1828.

butary streams from every mountain, plain, and valley of literature and science, roll them in countless volumes towards the ocean of oblivion at last! A contemplative philosopher, standing on the banks of this rapid torrent, might amuse himself by calculating what proportion of its waters were expended in fertilizing the soil—what proportion fell into swamps and marshes, apparently for no other purpose than pollution of the air—and what proportion rolled on, unseen, and unheeded, to that vast reservoir, serving at once for its cradle and its grave! Some train of reflections, of this kind, must have been passing through the mind of an esteemed transatlantic contemporary,* when he placed at the head of his periscope, a female figure winnowing corn, or, in other words, separating the grain from the chaff, with this motto underneath :—"Utilia fideliter excerpendum." There could not be a more appropriate head-piece to this department of his journal. The task of Hercules, in cleansing the Augean stable, was nothing compared with the process of winnowing the medical journals of Europe and America. He had only to let in a river, and sweep the whole rubbish away—but the winnower must darken the air with chaff before he can collect a handful of grain.

Modern ingenuity, and the "march of intellect" were never so distinguished as in the art of adulterating *things* by means of *words*. Medical reporters, in which we include all species of writers in the periodicals, seem to be as loth to come to the naked fact, as to the point of a naked sword. They are absolutely in a fever, lest the reader should too soon guess at what is ultimately to come out in the course of the paper. Many of the facts, indeed, when developed, are such as prove the writer to have had some degree of cunning, in keeping them so long concealed in verbiage; but why those who have useful knowledge to impart, should labour to envelop it in obscurity by a profusion of unnecessary words, and thus curtail rather than extend its circulation, we never could divine.

We have been led into this train of reflection by the receipt of a packet from an old but unknown correspondent, Lacon, (now of Albemarle street) from whom we had not heard for some years, and therefore concluded him to be dead. He informs us that he has been immersed in the most profound studies, during the last five years, and that he has made a discovery of the greatest importance, especially to medical literature.

By means of an elaborate chemical, or rather alchymical process, he has constructed a metallic plate or Tractor, which he denominates a Verbifuge, and which, being drawn lightly over the pages of a book, immediately effaces all *unnecessary* words or sentences, leaving the efficient ones in insulated groups, which often, he says, present a very curious appearance, and one that would be most appalling to authors.

Apparent rari nantes in gurgite vasto!

Perceiving, at a glance, the vast importance of such a tractor to an analytical journalist, we offered a handsome sum for the annual use of the Verbifuge; but he would neither lend nor sell his tractor, though he promises to amuse himself by *deverbatising*, (as he expresses it) certain portions of medical literature, and sending us the nett proceeds. With this our readers, as well as ourselves, must be content.

It is interesting to learn, that Lacon is now devising a text by which he hopes to distinguish truth from falsehood, a task which the Tractor does not pretend to perform—its office being simply that of a Verbifuge."

We must confess we should be very glad to have possessed, "*Lacon's Verbifuge*," but as this Tractor will be extensively employed for the pages of the *Medico-chirurgical Review*, we shall not fail to take advantage of the opportunities afforded us by our valued friend Dr. Johnson. With respect to the medical literature of our country, we shall endeavour to follow, as nearly as possible, Lacon's plan of deverbatising, and if in winnowing we *must* darken the air with chaff, we shall be equally sure of collecting the *handful of grain*.

Eds. Am. Med. Recorder.

* American Medical Recorder.

EXTRA-LIMITS.

BALTIMORE CITY COURT.—MEDICO-LEGAL TRIAL.

Commonwealth vs. *Dr. Hinze.*

In our last number, page 453, we made allusion to a trial in the Baltimore city court, between Doctor Jameson and Doctor Hinze. As it is highly interesting and important, in a professional point of view, we publish the following abstract carefully drawn up, principally from the notes of the prosecuting attorney. We present it without comment, not doubting that every reader will observe the nature of the *volunteer evidence*, and be pleased to see that Doctor Jameson has triumphed over the efforts of a *combination* to injure and destroy his professional reputation.—*Editors.*

No one can be more sensible than the writer of this, of the disadvantage which generally grows out of professional controversy,—no one, therefore, is less disposed to appear before the public, under such circumstances; but, *necessitas non habet legem*. And, I trust, I shall convince the reader that the most cruel attempts have been made to involve me in ruin. I shall show that all attempts against me have been of a professional character. By what motives my enemies were actuated, I shall leave others to judge. I trust I may claim the merit of having been a zealous devotee to my profession. Has this been the cause of all my troubles?

A considerable portion of the profession throughout the United States, are aware of a pamphlet having been published in 1826, by D.* Turnbull.

Before entering into an examination of the pamphlet we shall offer a few preliminary remarks. I have to state that D. Turnbull had no knowledge of the cases reported by him, nor had he ever seen me operate. The pamphlet sets out by saying, that Dr. Jameson has published "malicious reports," against D. Turnbull. I never made any publication against D. Turnbull, excepting so far as he fell incidentally in the way, in a controversy with the professors of the medical school of Maryland: he being dissector for the school at the time. The following quotation from the pamphlet will give a pretty good indication of the origin of the publication. It is said, "I shall inquire into the scientific character and pretensions of this man, and how far they authorize him to *call upon the legislature, to make a new school where he may teach modern surgery.*'

In the winter 1825–6, an association was formed in this city for the purpose of establishing a new medical school, consisting of doctors Jameson, Bond, Miller, Handy, M'Colloch and Annan. The writer of this became the agent before the legislature, in asking for a charter. Immediately after my arrival at Annapolis, I was *shown* a letter by James W. M'Colloch, esq. then a member of the legislature, from Dr. Potter, in which it was said, the men associated were too contemptible to deserve the notice of the old school, excepting so far as they entertained fears, that by establishing a new school, those engaged in procuring subjects for dissection would probably quarrel; and thus throw serious obstacles in the way of anatomy. In a few days afterwards, Drs. Potter and De Butts visited the seat of government, for the purpose of opposing the application for a new school,—a controversy ensued, and terminated soon afterwards in the publication of the pamphlet in question, of which D. Turnbull was the avowed author.

The reputed writer of the pamphlet having given some account of himself, being a foreigner; and having made some coarse remarks, of a general nature, upon the character of Dr. Jameson, concludes what he calls his preliminary remarks thus, "I shall lay before the reader a few cases that occurred under the care of Dr. Jameson, and which can be substantiated before a court of law should it be necessary."

The first case is that of James Underwood, reported in the Medical Recorder,

* D for Duncan.

vol. 4, page 222. It is asserted that Dr. Jameson is entitled to very little credit in this case, having been advised in his proceedure by others. If the reader will turn to the certificates A, B, and C, he will see how little foundation for such an assertion. And we are authorized in saying, that Underwood is still in good health; and believe the treatment adopted in his case was peculiar, when viewed in all its detail, and merits the most serious attention.

The second case is that of Geo. Ballinger, of whom it is said that Dr. Jameson performed on him the operation of lithotomy and found no stone: "a thing which never happened to any man living, Dr. Jameson excepted." It would, perhaps, be considered invidious to point out instances, but every surgical reader will recall similar cases. We are authorized, however, to state, that in this instance upon opening the bladder there was found a hard tumour, which it was not thought advisable to remove; and the boy was left as before the operation. See certificate D. These cases, not alleging any thing of a criminal nature, were left out of the indictment by the grand jury, but as it was proved on the trial that eight hundred copies of D. Turnbull's pamphlet had been circulated, we have deemed it proper to advert to these cases.

For reasons, which will appear in the report of the trial, before the Baltimore city criminal court, I did not think it necessary to institute a suit against D. Turnbull. In the early part of the present year doctor Hinze republished the Turnbull pamphlet with a short appendix,—so wanton an attack, and a perpetuation of so foul a calumny, it was thought, by my friends, ought not to go unpunished. A suit being instituted, it was proved in court by —— Hantzche, printer, that he had printed five hundred copies of the republication. That after he was summoned before the grand jury, Dr. Hinze endeavoured to induce him to give in some other name, and say, or, in other words, swear, that the order had come to him through the post office. The delivery to Dr. Hinze was also proved by an apprentice to the printer. We ought to have stated that in impannelling the jury, one man declared he had prejudices unfavourable to me, and that the attornies for Dr. Hinze contended for his retention; he was retained.

Upon opening the trial, a question of law arose, how far in giving the truth in evidence, by virtue of a statute law of the state of Maryland, evidence could be admitted, bearing exclusively on the principles involved in the case of a scientific and professional character. The court decided upon the most liberal and extended view of the case, and seats were cleared by the court for the medical witnesses, that they might hear the evidence and give their own opinions. We think proper to state here as a remarkable fact, that on the first day of the trial, Dr. Davidge was under the necessity of leaving court to visit his grandchild, ill in the country. Some conversation arose, in which, Dr. Hinze's attornies distinctly stated, that they could not try a single case without the presence of Dr. Davidge; and yet it turned out on the trial, that Dr. Davidge had no personal knowledge of any but two cases out of five, and in one of these he had only seen the patient long before the operation. To them it is best known how they ascertained that Dr. Davidge's testimony was all important, which was to be given on the evidence not yet before the court.

1st case in the indictment.—1 specification, "Mr. Richard Allen's servant. This person had the appearance of being a strong robust woman, her health but little impaired, nor did she suffer much inconvenience otherwise from her disease, which was that of a scirrhus of the uterus."

We shall see presently that the pamphlet set forth, that the surgeons connected with the infirmary in Baltimore, decided in a consultation, that no operation could be performed upon this woman. It was proved by Dr. Allen and the rev. John Allen, that this woman suffered severely all the usual symptoms of scirrhus, more or less, for four years. Dr. Hall, in his evidence, represented the woman's case to have been deplorable, that the consultation were of the opinion that the disease extended to neighbouring parts, and, therefore, forbid any operation. If we believe this, it is a complete refutation of the first specification, which was intended to show that Dr. Jameson was not warranted in his operation, because the woman did not "suffer much inconvenience from her disease."

2 Specification. "This woman came to the infirmary to have the disease removed by an operation; and was examined by a consultation called for that purpose, consisting of seven or eight of the most respectable physicians in town, who gave it as their opinion, that it was impossible to remove the diseased parts by any surgical operation, and that any such operation would, to a certainty, cause her death."

Compare this specification with the first, and what are we to think of the consultation. What surgeon does not know that the scirrhus cervix uteri may be successfully removed? Dr. Chatard in his evidence cited cases from Ossiander and Lisfranc, the latter of whom reports twenty-two cases, and but two failures. Dr. Hall appeared as the principal witness under this specification: we have already seen that he represented the case to have been too far advanced to admit of removal. His evidence consisted in saying, the woman had been at the infirmary in the month of February, and was dismissed as incurable. Dr. Charles Smith testified, that during the illness of the patient, under the care of Dr. Jameson, Dr. Hall came to the infirmary, and requested Mr. Walker, a student, to make a memorandum, stating that the consultation at the infirmary, on the case of Dr. Allen's woman, had not dismissed her as incurable; and assigned as a reason for making such a record, that Dr. Jameson had operated on this patient: report said she was likely to recover, and if she did, the infirmary being in its infancy, might suffer. The document drawn up by Mr. Walker, was attested by Mr. Smith, also a student, at the instance of Dr. Hall. This was done on loose paper, and put into a drawer. In this way, attested as it was, it might, if occasion required, have the effect of a record; if not, it would not appear on the books against the consultation. Dr. Hall now came forward to explain, and said Dr. Charles Smith had mistaken the case, that he, Dr. Hall, had requested some document to be drawn up respecting another case. That captain Hamilton had sent a woman to the infirmary with scirrhus mamma,—that she had been dismissed as incurable, and that he met captain Hamilton some time afterwards, who said you were right in your opinion respecting my woman; Dr. Jameson operated on her, and she is dead. Captain Hamilton being sent for and sworn, stated that his woman having been dismissed as incurable, by the consultation at the infirmary, was operated on by Dr. Jameson, and soon recovered: returned home and went into service, but died some weeks afterwards of some other disease. Dr. Birckhead being sworn, stated, that he visited captain Hamilton's woman some time after she had been operated on, that he had examined the parts, and found no evidence whatever of the former disease; but she was very low from some disease, rather obscure; but attended with a miscarriage near her full time, a day or two after which she died. I ascertained by Dr. Birckhead's books that she died 12th of September, and she was living on the side of a marsh. It was proved by the rev. John Allen that the operation upon the woman belonging to his son, was on or about the sixth day of May, and the books of the infirmary proved captain Hamilton's woman to have been sent to that institution in July. It also appears that the books in May, were in the hand writing of Dr. Walker, but not in July, proving thus, incontestible, that Dr. Hall's statement must be erroneous, to say the least. If captain Hamilton's woman, as was proved, went to the infirmary in July, and Mr. Allen proved that their servant was operated on in May preceding, Dr. Hall's testimony cannot be true. In May the books were kept by Mr. Walker, in July by Mr. Brine. So that instead of explaining away the testimony of Dr. Charles Smith, he, Dr. Hall, was the means of proving, that Dr. Jameson had cured captain Hamilton's woman, though pronounced incurable at the same infirmary,* where "*seven* or *eight* of the most respectable physicians" had dismissed Mr. Allen's servant; and the operation upon whom, is held up in the pamphlet as a crime against Dr. Jameson.

Dr. Davidge being sworn, rested his testimony principally on matters of opinion, objected to the operation on the scirrhus uterus, and said, that as a general principle in surgery, we should never remove any part of a diseased organ, without removing the whole organ. Attempted to ridicule the operations of Ossiander and Lisfranc, and expressly said that scirrhus is cancer, and no surgeon will approach it with

* The medical and surgical attendants of this institution are the professors of the university of Maryland.—*Editors.*

the knife when an organ is partially affected, without removing the whole organ; —that this woman would probably have lived ten years, notwithstanding Dr. Half swore, that she was dismissed because the disease had advanced too far for an operation,—that he, Davidge, had examined this woman by the touch, that he never used the speculum uteri, which Mr. Allen proved to have been used by Dr. Jameson, *that it smacked of something improfessional*, and upon being asked of what it did *smack*, he replied, IMMORAL CURIOSITY! The reader cannot forget here that Dr. Davidge is speaking of a surgeon, who we may suppose, knows something about certain structures, and where, we would ask, is the curiosity of viewing them in a negro wench? We leave this to the invention of him who conceived so wonderful and disgusting a thought before a court of justice.

3 SPECIFICATION. "A short time after this, Dr. Jameson called on this woman, and persuaded her to let him operate; which she did, convinced as the doctor told her, that she would be well in a short time."

No attempt was made on the part of Dr. Hinze to prove this specification. But on the part of the state it was proved, by the rev. Mr. Allen, that Dr. Jameson had never called on her; nor did he, to the best of his knowledge, persuade the woman. She had been taken to the house of Dr. Jameson, and there examined; that she was apprised of the operation being one of great danger; that Dr. Jameson had shown him some authorities as precedents, upon which he would predicate the operation; but the doctor never used any persuasion, nor did he ever represent it in any other light than a dangerous operation, intended to remove, if possible, an incurable disease. Dr. Allen testified that he called on Dr. Jameson and examined authorities for the intended operation, and under all the circumstances, he had thought it his duty to advise her to submit, which she did, fully apprised of its being attended with danger.

4 SPECIFICATION. "The operation was accordingly performed, and she died on the seventh day afterwards."

It was proved by the rev. Mr. Allen that the woman died the eighth or ninth day. But it was proved by Dr. Chatard and Dr. Handy, that they witnessed the operation, and that it was well performed. And they both believed, judging from books and the circumstances of the case, that the operation was warrantable. And Dr. Handy testified that after the cervix uteri was extirpated, he examined it, and ascertained that the os tincæ was in a state of scirrhus, but where the cervix was cut off, the structure near the division of it was healthy.

5 SPECIFICATION. "After the operation he triumphantly told her master that he had cut out the whole of the uterus, but on examination after death, it was found he had only removed a part of it."

Dr. Allen testified that he was under the impression that Dr. Jameson's object was to remove the whole of the uterus, and he had an impression on his mind that Dr. Jameson had intimated to him, that the whole of the uterus was removed; but upon being requested to speak more positively, he became more doubtful, and could not say that Dr. Jameson had made any such declaration.

Dr. Handy here testified, that before leaving the operation room this question was agitated, and that, at his suggestion, a probe was run through it, and proved the part excised to be but a part of the uterus. We venture, therefore, to infer, that the impression on the mind of Dr. Allen must have originated from reading D. Turnbull's pamphlet, and, perhaps, from hearing Dr. Jameson say, that if necessary, even the whole uterus might be removed. A faithful report of this case will be found in the Medical Recorder, where it will appear that the body of the uterus, as appeared on the post mortem examination, was healthy, and leaves the presumption that if the ovaries had not been diseased, of which no knowledge could be had before her death, this woman would have recovered.

CASE 2 OF THE INDICTMENT.—1 SPECIFICATION. "Sarah Tyler, from the eastern shore had a large fungus tumour on the neck, which Dr. Jameson undertook to extirpate. When about to commence the operation, one of the gentlemen asked him if he intended to remove the tumour, the doctor answered yes; he then asked him if he had examined it thoroughly, that it appeared to him to be impossible, as

it passed into the chest, and extended round the back of the neck. The doctor, however, was not to be dissuaded."

Dr. Chapman was called, and stated that he had gone to the house where the operation was to be performed on Miss Tyler, with Dr. Jameson, that he had asked the doctor questions similar to those in the above specification; and had dissuaded him from the operation, because he believed the removal of the tumour impossible.* Drs. Handy, Chatard, Donaldson, and Bain, testified that no such conversation had taken place in their hearing: and Dr. Bain said he had gone down to the house of Mr. Shanahan with Dr. Jameson, and took an active part as an assistant, but heard no such remarks. It was also proved by Drs. Chatard, Donaldson, and Handy, that they had met Dr. Jameson in consultation, on the case of Miss Tyler, the day prior to the operation, and agreed, that as there was a good deal of obscurity in the disease, that an examination should be made, and, if found practicable, the tumour removed. It was also proved, that the gentlemen in consultation, did not view it as *a case of fungus*, but believed it to be a case of encysted tumour, the precise nature and extent of attachments could not be clearly ascertained. It cannot, therefore, be true, as stated in the first specification, that Dr. Jameson undertook to extirpate: and, what shall we say of the declaration of Dr. Chapman; that Dr. Jameson, upon being asked whether he intended to remove the tumour, he answered yes. On this point Dr. Donaldson distinctly stated, that the incision which was made in the integuments was done with a view of *exploring;* and finding an unmanagable tumour, here the *operation ended, and that according to previous agreement.* It was also proved by the gentlemen in consultation, that the patient was fully apprised of the doubts and dangers of the case; and that far from being persuaded into the operation, she preferred having it done, if there was the smallest hope of relief; and that on such hope she would rest the issue, her case being hopeless, and life truly miserable, from an anguish of suffering which she had not language to describe.

2 SPECIFICATION. "Having made his first incision, he dissected the skin first backwards, and then forwards; but as he could find no end to the tumour in either direction, he laid down the knife, and asked for a pointed instrument called a trocar, and after passing it into the tumour first in one, and then in another direction, for three or four times, he gave up the operation, bound up the neck, and left the patient to her fate."

It has already been stated, in specification first, that the incision made through the skin was intended not positively as an operation, but as an "examination."

It is admitted, then, that the skin was dissected, so much as was necessary for ascertaining whether any of the important nerves or blood vessels were involved in the tumour, before a trocar could with propriety be passed into the tumour. Dr. Donaldson proved expressly, that no important structures were involved in the tumour, and that the trocar was passed because there was reason for believing, from the feel of the tumour, that it might contain some fluid; and, if so, by letting this out, room, might possibly be made, for dissecting out the sac. That no mischief could possibly arise from passing a trocar into such a tumour, because it was a substance extraneous to the natural structures, and totally devoid of sensibility. That upon introducing the trocar and finding no fluid, the experiment which was to be made, agreeably to consultation, was completed. Dr. Davidge, in his testimony, condemned, in strong terms, the use of the trocar, and said it could not be used for any useful purpose,—that there was much risk in passing a trocar into such a tumour, on account of injury which might be done to important nerves or vessels, although we have already stated, that it was in proof that the tumour was uncovered that the anatomy might be examined; Drs. Davidge, and N. R. Smith constantly spoke of the danger of introducing the trocar; as constantly overlooking the fact of the exposure or uncovering of parts; and spoke as if Dr. Jameson was altogether unacquainted with, or ignorant of, this risk; and, to use the language of specification second, "plunged" the trocar "first in one, and then another direction" They dwelt much on the risk of irritation from the use of the trocar, danger of its producing spasm, &c.

* Dr. Chapman, on his cross examination, declared he had not reported the cases to Turnbull. How does this quadrate with what he says in this case?

3 SPECIFICATION. "This lady died thirty-six hours after the operation."

It was admitted that the patient died the second day after the operation. But no one of the gentlemen who had seen the case ascribed her death to the operation, except so far as the shock given to a feeble system, might have hastened an event, which was likely, under the circumstances of the case, to occur every hour. But that nothing immediately connected with the operation could have occasioned her death. There was no considerable loss of blood, no inflammation, no spasms, nor any evidence of irritation, either during the operation or afterwards. It was proved by Mr. James Shanahan, at whose house she was, that she was cheerful, reasonably comfortable, after the operation, on Saturday afternoon; that night, and all day on Sunday; and till near Monday morning, when she became extremely restless, soon afterwards delirious, and fell very soon into a state of extreme weakness, and died about ten o'clock.

Dr. Handy proved, that upon a post mortem examination, it was found that the tumour had grown down into the chest, and was pressing on the heart, and to this was he disposed to ascribe her death. Dr. N. R. Smith, after having given as his opinion, that the operation was the cause of death, and most probably occasioned by the trocar, admitted, upon being asked, that the pressure of the tumour upon the heart might have occasioned death. But doctor Davidge unequivocally asserted that no such tumour ever existed,—that if there had been such a tumour, the opening of the skin would have tended to relieve the heart, as the tumour would have risen upwards,—notwithstanding that doctor Handy swore to a post mortem examination.

4 SPECIFICATION. "It is necessary that I should inquire what are the principles laid down in surgery respecting fungus tumours, are they not that we should never attempt their excision, unless we are certain they can be completely removed? What benefit could he expect by pushing a sharp pointed instrument into a fungus tumour; I ask any one who knows any thing about surgery, could he have done more to produce irritation, and inflammation, and their consequences, pain and death?"

There was no proof to support the assertion that this was a fungus tumour. On the contrary, Dr. Handy proved, that the consultation did not consider it a fungus tumour, and upon examining it after death, it was ascertained not to be a fungus, but a compound tumour, partly osseous, and partaking of several varieties of tumours. The affair of the trocar has already been explained, and it has also been proved by doctor Donaldson and others, that there was no inflammation, and no visible irritation; and by Mr. Shanahan, that she had neither pain or other distress, from the operation till a few hours before her death, having had a comfortable interval of not less than thirty-six hours. It was proved by doctor Handy that doctor Jameson performed the operation, so far as it went, skilfully,—and even doctor Chapman admitted that the incisions were well executed, and, in this respect, he had no objections to make, except that of using the trocar; and if the trocar was to be used, it ought to have been passed through the skin,—of course, entirely overlooking the fact of the risk of wounding nerves and vessels, which might be involved in the tumour, and for which the tumour was uncovered. Here doctors Davidge and N. R. Smith, seemed to labour under some strange delusion about injuring nerves, although no man of common sense, could help seeing that one principal object in uncovering the parts, was to examine the anatomy, that the operator could use the trocar safely. Doctor Donaldson speaking of the harmlessness of passing the trocar into an insensible mass, and that mass distinctly brought under the eye, said he spoke of what he *had seen himself*. This, though it might not have been so intended, was a severe commentary upon those, who in strong terms, condemned an operation which they had not seen, and of which, they constantly spoke, as though neither doctor Jameson nor the consultation knew what they were about. And, upon the state's attorney asking doctor Davidge whether he would object to attempting the removal of such a tumour as doctor Handy desribed, he declared that no such tumour ever existed.

3 CASE IN THE INDICTMENT.—1 SPECIFICATION. "Mrs. Jinn was the mother of a large family, and resided about four miles from Baltimore, on the liberty road. I shall give the account of this operation as I received it from Mr. Jinn himself,

the unfortunate husband of the patient. Though it was more than a year after this cruel operation, when he related the circumstances to me, he was perfectly unmanned by it."

Mr. Jinn being sworn and interrogated, it was clearly manifested that he was neither acquainted with many of the facts set forth in the pamphlet, nor did he understand a considerable portion of the terms used; and it will appear in the further examination of this case, that many facts are involved in the publication of Turnbull's pamphlet which could only be known to those present,—the husband, it was in evidence, was not present; and even where falsehoods are told, they are obviously such as an illiterate man could not have invented. This specification, though not particularly important, is so glaringly false, that I have thought proper thus far to notice it.

2 SPECIFICATION. "Mrs. Jinn about a year previous to her death became dropsical, during which time the water was repeatedly drawn off by a respectable physician from town. Sometime prior to the operation of which she died, a tumour appeared in her abdomen; when the *learned* doctor Jameson was called in to consult what was to be done. He immediately said he would cut it out, and appointed the day when he would operate."

Doctor Jennings proved, that himself and doctor Chatard had repeatedly tapped Mrs. Jinn,—that after some time, she collected water so fast, that the operation became necessary once in twelve or fifteen days. That she was much emaciated, and reduced in every respect,—that he gave the husband and the patient distinctly to understand, that her case was hopeless; and, that in all probability, she could not survive more than two or three tappings. That the husband continued to make the most urgent entreaties, that something might be done for her. The doctor told him, that in his reading, he had seen cases bearing a similarity to that of Mrs. Jinn, that were relieved by surgical operation. Mr. Jinn, after some time, called to request him to bring out a surgeon to see Mrs. Jinn, and having previously mentioned doctor Jameson to him, he asked the doctor to go with him. Mr. Jinn proved, that after his first conversation with doctor Jennings respecting an operation, his feelings revolted so much that he did not mention it to his wife,—but some time afterwards was overheard by her telling it to his brother, when she called out to him to let him know, that she heard what he said; and said further, "you know Johnny, my dear, it is but death, at any rate;" and she now desired that doctor Jennings should be requested to visit her and bring a surgeon with him. Doctor Jennings proceeded to state, that he accordingly called on doctor Jameson, took him to the house of Mrs. Jinn. She was now tapped by doctor Jameson, having accumulated three or four gallons of water in two weeks. A tumour was now seen, lying in the lower part of the abdomen, of considerable size,—that she was told that an operation, if undertaken, would be predicated upon some three or four cases nearly similar to hers,—that in the operation, abstractly considered, there was no particular danger, but as the case was utterly hopeless from medical treatment, we would undertake an operation, provided she was prepared to meet the risk, which must, in her condition, necessarily be considerable. That she had better take time and think the matter over. In a few days Mr. Jinn called to say, that she had made up her mind and wished to see the doctors. It may be proper to state here, that doctor Jennings stated that there was some difference of opinion between himself and doctor Chatard, who had seen this case with him in its early stage; the latter believing it to be ascites. I have to say, that I found, on opening the abdomen, that there was both ascites and enlargement of the ovarium. We mention this here, as it will serve to explain a part of the difficulty of the case.

The testimony of doctor Jennings and Mr. Jinn go to disprove, in the most unqualified manner, the whole of this specification; and shows, that so far from the rashness charged against doctor Jameson in the pamphlet, that this case was most carefully investigated, the probable risks and chances fairly stated, and the patient and her friends left free to decide for themselves.

3 SPECIFICATION. "On the day appointed the doctor and three other physicians arrived at Mrs. Jinn's immediately after dinner."

If the "day appointed" has reference to an arrangement at doctor Jameson's first visit, doctor Jennings and Mr. Jinn, we have already seen, have disproved the assertion. That three persons arrived at the house of Mr. Jinn, agreeably to arrangement, made by Mrs. Jinn and her friends, was admitted. These were doctor Jennings, doctor Chapman, and a Mr. Woods, a student of medicine, who died soon afterwards. This, we deem important to mention, as it was manifest on the trial that Mr. Jinn could not have given the information said to be obtained from him, nor any other person than some one present; was doctor Chapman the maker of the story? We shall have occasion to notice the spirit of this doctor's testimony presently.

It was proved, by doctor Jennings, that the physicians did not leave town till after dinner, that nothing was seen of any dinner, nor was such a thing thought of, as that a woman about to undergo so formidable an operation, with which she had been made well acquainted, should have eaten her dinner. Mrs. Wimble, the sister-in-law, testified that the patient had eaten a remarkable hearty dinner, in good spirits, she dined with her, &c. at twelve o'clock. She afterwards said, on cross examination, upon being told that the physicians had not left town till after dinner, that she had arrived just before them, might be about two o'clock, that she did not dine at Jinn's that day; nor had she seen any dinner, but was *told* that Mrs. Jinn had eaten her dinner, &c. Nor was there one particle of evidence to prove that Mrs. Jinn had eaten dinner, but the family had dined at 12 o'clock; and, therefore, at least two or three hours before the operation. Indeed, the idea of her having eaten a hearty dinner is so incredible, that an unprejudiced person could not but feel scornful at the attempt made by doctor Davidge, as we shall presently show, to prove that there was much want of skill, and much danger from operating on a patient immediately after dinner, for, we repeat, no proof whatever was had of the fact.

4 SPECIFICATION. "Mrs. Jinn, though somewhat ailing, had never been confined to her bed, and was still able to see after her family concerns, and was just getting up from the table after having eaten a hearty dinner."

We have already shown, in our answer to specification second, that Mrs. Jinn was far advanced in dropsy, that in the opinion of doctor Jennings, she could not survive but a few weeks at most; and it was admitted, by Mr. Jinn, that she was principally confined, and *entirely unable to look after her "family concerns,"* but merely able to walk a little through her room, at times. And in answer to specification third, we have shown that there was no proof of her having eaten dinner, but it was clear from the confused testimony of Mrs. Wimble, and from the fact, that nothing of a dinner table was seen by other witnesses, that this assertion respecting dinner, is without a shadow of truth or testimony.

5 SPECIFICATION. "He informed her he had come to take out the tumour. The good lady seemed somewhat surprised, and mentioned she had just eaten her dinner, but thinking there was no danger, she thought, perhaps, that was no reason why the doctor should not operate."

The reader may remark here how much stress is laid upon her having just eaten her dinner, this is the third time it is mentioned; and it is repeated twice more. And we have already seen that there was no proof of her having eaten dinner,—but the fact of the family having dined at 12 o'clock, with whom she was *said to have dined*, and the doctors having left town after dinner, settles this point. That she could imagine "there was no danger," cannot be credited. We have it already in proof, that doctor Jennings and the husband said that she was aware of great danger,—"it is but death at any rate," as testified by the husband as being a declaration of the patient, clearly disproves this assertion, that she thought there was no danger.

6 SPECIFICATION. "The table being cleared off as quickly as possible, she was laid upon it, and he commenced his labour."

This again has reference to the dinner table. Surely we need not again revert to the testimony, disproving the presence of any thing like dinner, or a table then rid off.

7 SPECIFICATION. "The first incision which he made was through the abdominal walls and into the tumour."

This tale is said to be from the *husband of Mrs. Jinn.* He stated, in his testimony, that he was not present, how then testify that the first cut was into the tumour. Doctor Chapman was brought up, and testified that doctor Jameson made an incision on the *left side of the belly, six or seven inches long, directly through the abdominal walls; then into the tumour, and took away a portion of it,*—patient became faint from loss of blood. Part of the tumour was taken away with the knife and hand,—that the loss of blood was very considerable,—no vessel of magnitude cut, bleeding from many small vessels. Upon cutting into the tumour, the parts were inundated with blood. On his cross examination, he acknowledged that the operation was performed with *proper rapidity*, notwithstanding that he first said, the first incision was through the abdominal walls. Mrs. Wimble stated that the incision was on the *right side of the belly*, but further she knew not, on this point. Doctor Davidge now came forward, and intimated that the wound ought not have been made in the right side, because in operations, in general, *free incisions* were best, and could not be made sufficiently so in the right side,—that it was all wrong to open the right side, because, in most cases of ovarian disease, the liver is diseased and enlarged, and therefore, in danger of being wounded by the surgeon's knife. Besides, there were two large blood vessels in danger by opening the abdomen on this side,—that all good surgeons operated in the linea alba, where, alone, could the necessary extent of incision be made without danger of blood vessels, and where, only, could an ovarian disease be got at. Here, we must remark, that the doctor is not only taking the woman's opinion, of the right side being opened, in preference to doctor Chapman's testimony, that it was in *the left;* but in all his talk about the liver, arteries, &c. in the right side, he talks as though doctor Jameson had neither anatomy or sight to guide him in any degree. And it is particularly worthy of notice here, that after doctor Davidge had thus slighted the testimony of doctor Chapman, that the latter came forward and said he believed he had been mistaken, that Mrs. Wimble was right in saying it was in the right side. Doctor Nath. R. Smith came forward and testified, that in all such operations a most *careful and small* opening should be made, to admit a finger, and search made whether there be attachments, that, if there were, the operation should go no further. Doctor Jennings testified, that the operation was done in a very deliberate and skilful manner, that the incision was commenced *a little above the umbilicus, and continued down the course of the linea alba to near the pubis, turning a little round the navel, and carrying* the first incision no further than through the skin; then the tendinous line was carefully opened by a number of delicate strokes of the scalpel, till an opening was formed, and a finger put in to serve as a guide to the knife as it was carried downwards. Then the peritoneum was in like manner opened, and the fingers and knife carried down to the end of the wound. That I now took the handle of the scalpel to try the amount of attachment, by which a hydatid, of which there were many, bursted. That the rupture of this gave rise to a necessity for putting in the hand two or three times, to lift out some glairy fluid which had escaped, and that *some blood flowed from the same cause, but that the quantity was very small, and not such as to endanger the patient's safety. That the tumour was not cut into at all, much less any part of it removed.* It may be remarked here, that this was doctor Jennings' patient, that he was principal assistant to me, and, therefore, not at all likely to be mistaken. No man, acquainted with me, can believe that I would cut into the abdomen at once, as stated by doctor Chapman, or that I would open the abdomen under such circumstances, except in the linea alba. That I did not cut on the left side, as sworn to by doctor Chapman, and on the right also, as sworn to by Mrs. Wimble, we need not say.

8 SPECIFICATION. "In an instant the blood poured out, and the doctor, not aware of what he had done, thrust his hand into the abdomen."

We have already proved, by doctor Jennings, that there was very little blood lost; and Mrs. Wimble also said, she saw but little blood. I have already adverted to the fact of my having found this a case of ascites, as supposed by doctor Cha-

tard, and also of ovarian disease, as believed by doctor Jennings, and indeed doctor Jennings' own testimony went to show that there was a considerable quantity of water in the abdomen; and, as it was, according to his testimony, merely a hydatid which was opened; it is clear that the ovarian sac was not opened,—indeed, I can most positively aver, that there was no ovarian dropsy. This body (the ovarium,) was grown into a great tumour, above it and attached to it, were seen a great number of those hydatids. It will follow, then, as there was a considerable quantity of water in the abdomen, that there was a space between the peritoneum and the tumour filled with water, and hence it was, that as soon as the cavity was opened, a great deal of water escaped, as stated by doctor Jennings. "The doctor, not aware of what he had done, thrust his hands into the abdomen." No witness had the hardihood to attempt to prove so false and base an assertion as this: "Not aware of what he had done," good heavens! how could it have entered into the heart of any one, to conceive of so infamous a declaration, when it was fully proved by doctor Jennings, and not contradicted, that I was cool, steady, and undismayed, treating the patient with all possible gentleness. Doctor N. R. Smith stated, that the hand could not be introduced into the abdomen without extreme danger,—such, indeed, that in all cases a small incision should be made, just to admit a finger, then search made for attachments; if any existed, we should stop here,—that, he believed, that the introduction of the hand, in this case, was, in great degree, instrumental in occasioning the death of the patient. Much stress was laid upon this testimony of doctor Smith (notwithstanding doctor Davidge had advised large wounds,) by Hinze's counsel, who called up doctor Donaldson, in the hope that he would sustain it: he treated it with its merited contempt, and said it was a necessary part of the operation for the removal of such a tumour; that under the circumstances before him, it was not only blameless, but necessary to remove any extraneous matter within the cavity, that he would repeat it as often as circumstances seemed to require, without any fear of increasing the danger of the case.

9 SPECIFICATION. "One of the gentlemen present put his finger on the pulse, and told him to desist, that the woman was sinking, but not satisfied with what he had done, he made another slash or two, when he was again told to desist, but it was now too late."

Doctor Jennings testified, that the patient during the operation became extremely weak, of which he advised me, that there was nothing in my conduct requiring admonition, but being in a convenient situation, by request of patient to feel the pulse, he did so. Upon being told of the weakness of the pulse, I felt it, and proceeded to dress the wound. If we here attend to the testimony of doctor Jennings already noticed, we shall see in it a complete refutation of the assertion, "that he made another slash or two." "The wound," said doctor Jennings, "was made with care and circumspection,"—the hydatid was broken in examining the attachments,—the doctor did nothing more than remove the fluid,—he did not cut into any tumour. What; then, it may be asked, was I doing while all these admonitions to desist were given,—I did nothing after opening the abdomen but lift out some fluid, how, then, can it be said that I gave another *slash or two*. It is worthy of remark here, that doctor Davidge took a good deal of pains to show, that it was not unsurgical to use the term *slashes* for incisions, and that he would not infer censure from such language, that it was sometimes used by surgeons.

10 SPECIFICATION. "This victim of ignorance, that had *rose* (risen) from the table but a few, a very few minutes before, now lay on the same table expiring."

Here we have again an allusion to the dinner table, already proved not to have been seen. That she had just risen from dinner, is, therefore, utterly false, however often repeated. Doctor Davidge took much pains to prove that it was not only wrong to operate upon a full stomach, but that this patient ought to have been reduced by low diet, purging, bleeding, &c.—all this without a shadow of proof that there was any thing amiss in any of these respects. This leads us irresistibly to the conclusion, that doctor Davidge came prepared to argue the case from the representation set forth in the pamphlet, and not according to the testimony, because on these points, we repeat, he had no such testimony; and when the testimony of doctor Jennings was given, directly the reverse was proven.

12 SPECIFICATION. "The doctor made all haste to bind up the wound and remove the patient to bed, but before they could reach the bed with her she was a lifeless corpse."

That all becoming haste was made to replace the patient in bed was admitted but that she died before she was put to bed is false, as appears by the testimony of all the witnesses. Doctor Chapman said she lived about five minutes after put to bed. Mrs. Wimble, about fifteen, Mr. Wimble, half an hour. Doctor Jennings stated that she was placed in bed, that we had taken leave of her with a view of going home, she sent out to the next room for doctor Jennings, and asked permission to turn on her side, which was granted, in doing which, a fluid was felt running out of the wound around her belly; she called out in great alarm, that she was bleeding to death,—that upon *turning down the bed clothes it was found to be water, a little bloody, but the alarm had been up, her feeble system, at that moment, could not bear the shock, and she died from swooning, as he believed, as an effect of her alarm.* Not having seen any other circumstances to which he could ascribe her sudden, and, at that moment, unexpected death. Yet, doctor N. R. Smith said, in unqualified terms, he believed the woman bled to death,—so that he had her twice killed, once from putting the hand into the belly, and again from loss of blood,—thus manifesting a determination to show that the patient died directly by my hand.

13 SPECIFICATION. "What shall we call this case,—is it surgery or homicide? I have been informed by a person who *was present at the operation, that doctor Jameson did not understand the nature of the disease,* and that he was told it was impossible to remove the tumour without the greatest risk to the patient."*

We have already seen, that the pamphlet gives this report of Mrs. Jinn's case as it was related by "Mr. Jinn himself." It is clear that Mr. Jinn never gave this account of this operation, for it is said by Turnbull, that he was informed "by a *person who was present,*" that I did not understand the disease, and Jinn was not present. Doctor Chapman stated, "that he differed in opinion with doctor Jameson, and dissuaded him from undertaking an operation,—that his reason for opposing the operation was a belief that the tumour was not ovarian disease, but of the mesentery, but he disclaims having had any share in the consultation; and said he had not seen the patient till she was on the operation table. Doctor Jennings testified, that no objections were made within his hearing, and as the party proceeded after she was on the table, instantly to the operation, it is clear that Chapman could have held no conversation with me except at the table, where, alone, doctor Chapman says he once saw the patient, and no where else. Is it to be believed, then, that he could confer with me, and doctor Jennings not hear the conversation, or that by a hasty examination he should form a more correct opinion than doctor Jennings and myself, who had tapped the patient before, conferred fully on the case, &c.

Doctor Jennings did not impute any want of skill to me, but said the operation was predicated on the hope that the tumour was pedunculous, so that it would admit of removal,—that this could only be decided (the tumour being moveable after tapping,) by opening the abdomen,—that so soon as the tumour was exposed it was evident that it could not be removed, and, therefore, it was a gone case, being, in its nature, wholly irremediable. That he at one time thought that I had exceeded the agreement. This could only relate to bursting the hydatid. Doctor Davidge, in his zeal to make the most of the testimony of Mrs. Wimble, said that it was clear, from the history of the disease, (and this was given by doctor Jennings alone,) that it was a case of ovarian tumour, and not of the *mesentery as stated by doctor Chapman*, and that no good surgeon would open the abdomen on the right side to get at an enlarged ovarium; that the incision ought to have been in the linea alba, and yet, as we have already stated, Chapman came forward and supported what Davidge said, by saying, he believed Mrs. Wimble was right in saying the incision was on the right side.

* Doctor Chapman swore he had not given information to Turnbull, Mr. Wood died long before. Where did Turnbull get his lessons?

It must not be forgotten that Chapman predicated his objections to an operation, on the belief of mesenteric disease,—and it turned out, on opening the cavity, that the mesentery was not diseased, but the ovarium; and the history which doctor Jennings gave of the case, enabled doctor Davidge, as he said, to decide that the disease was ovarian. If this "*person who was present*" made so gross a mistake, what was his opinion worth. If it had been a remediable and successful case, we should never have heard this tale about my "ignorance" from doctor Chapman, nor the assertion in the pamphlet, that "doctor Jameson did not understand the nature of the disease." Its general character was well known, and the operation predicated upon this general character, well knowing that there might be peculiarities which would render that plan, or any other, abortive.

14 SPECIFICATION. "What must have been his feeling when the children of this poor woman, who but a few minutes before were happily seated at the dinner table with their mother, distracted by this unexpected and awful calamity, followed him as he fled from the house, shouting ******."

Here again is mentioned the vile untruth of the dinner table, for which no proof could be had. The woman "happily seated," when we have seen already, that both doctor Jennings and Mr. Jinn proved the hopelessness of the case.

It is worthy of notice, that the writer here forgets himself, and betrays vile hypocrisy in allowing a portion of good feeling to doctor Jameson, and that he was not insensible to the common feelings of human nature; and yet, if one half of the assertions set forth in the pamphlet were true, he must be such a monster as has seldom been seen, and proof against even the the wailings of children.

It is obvious that the six asterisks are meant to signify murder, and this mark was so rendered by the grand jury in their indictment. Here doctor Chapman seemed puzzled, willing to say something, but after hesitating much, he said they made a great noise; and it was not until he was asked whether the cry of murder was raised by the children, that he said no. No witness could be found to support this hellish falsehood. Mr. Wimble said the children said the doctors had killed their mother, but did not say it aloud or shout it: and we must, therefore, turn it back upon its author, the devil; a human heart could not have conceived, unaided, so base a calumny against a fellow man.

15 SPECIFICATION. "I have only to repeat, that as I have said many things which may seem very harsh of this prodigy of science, that I am ready to prove them, either in a court of justice, or to any one who wishes an explanation on the subject."

That many "very harsh" things are said in the pamphlet against me, is but too evident. But what are we to think of a man, who having thus calumniated his neighbour, declares he is able to prove it in a court of justice, not knowing, as turned out on the trial, any thing whatever of these cases, except from hearsay from my enemies; and even this seeming apology only applies to a very small part of the publication, as nearly every item, indeed, every one, in any degree discreditable to my reputation, was wholly and clearly disproved,—not one of which operations had been performed, without consultation first being held by physicians of the first standing: so that his informants must have known, that the calumnies which they were thus giving to Turnbull, so far as we can credit his having received any, were as discreditable to the gentlemen in consultation, as against me. This specification, so bold and imposing to those unacquainted with me, has been disproved in a manner, which could scarcely have been expected, after a lapse of a period of two, three, four, and even six years, in one case, that of Mrs. Jinn.

This seems a proper place to mention the fact of Hinze's counsel having made many repeated efforts to acquit their client, because I had suffered Turnbull to go unpunished. Doctor Bond being sworn on behalf of doctor Hinze, with a view of invalidating the testimony of doctor Jennings, after having stated a conversation with doctor Jennings, in no degree variant from what he had stated on oath in any essential point, he, doctor B., stated, that Jameson, at the time of Turnbull's publication, said that its contents were so outrageous that no one would credit it, and that he considered its author too contemptible to deserve notice. The court overruled this effort at length, by saying, that if doctor Jameson had suffered one man to injure him, it was no reason why another should do it with impunity. I can

most truly say here, that even the fact of Hinze's being, by some good luck, a member of the city council, would not have induced me to notice the publication made by him, but for the belief, (which has been fully established on the trial,) that these men, Turnbull and Hinze, were instigated by others, whose names are now made too conspicuous to require being mentioned in this place.*

16 SPECIFICATION. "The public will now be able to form some estimate of that sort of soap bubble reputation, that is formed by vaunting impudence and newspaper puffing. It may swell and glitter, and dazzle for a time, those who are ignorant of its insignificant materials, but the slightest breath dispels the illusion, and exposes at once its utter worthlessness."

No one will doubt that this specification is made up of "insignificant materials." It would be a waste of words to attempt to answer so unmeaning a sentence,—it does not require the "slightest breath to dispel its utter worthlessness," and to make any sense of it, it must be connected with our next specification. Here we shall have the whole mystery unravelled why this pamphlet was published; by whom it was upheld; and why doctor Jameson eventually thought it worthy of refutation;—but here is the secret.

17 SPECIFICATION. "I shall close with the following extract from doctor Jameson's pamphlet, addressed to *doctor Potter and doctor De Butts, when, speaking of himself, he says*,—'what shall we say of the persons who represent as a reptile, and endeavour to prostrate the hard earned reputation of years? the head that has planned, and the hand that has executed, so many *wonderful* operations in surgery.'"

We have here a proof of the fact which we mentioned at the commencement of this report, that I was not in controversy with Turnbull, as the pamphlet would seem to import. but with *doctors Potter and De Butts*, who were acting as a committee for the faculty of the university of Maryland, as it was termed, or, in other words, a medical college. As the language imports these men made a desperate effort to "destroy" my reputation, merely because I had the presumption to visit the legislature and ask for a charter for a new medical school. And hence my "soap bubble" reputation, ignorance, cruelty, and "utter worthlessness" in the estimation of these men: and what they dare not do themselves they employ others to do, who having neither reputation nor money to lose, might safely direct the storm, while these vulcans, enshrouded behind dark clouds, could arm their emissaries with thunder bolts. "If there be a righteous God, and that there is all nature cries aloud," he will judge,—with him is no "illusion to dispel," but let mine adversaries remember, that they have not been able to deceive even men: their unhallowed deeds shall be recorded, that those who would run counter to justice for the sordid motive of gain, may read as they run. They cannot plead any other reason, for neither of them will leave even a "soap bubble reputation" behind. We cannot pass this specification over without bringing from the dark the base addition which is made to my language. In the next to the last line they have introduced the word "wonderful," and thus make me speak vainly of myself. The reader, we trust, will have seen false assertions enough before reaching this point, to believe, when we say so, that this word was never so used by me, what shall we think, then, of those who so regardless of all truth and common decency, would thus garble that they may villify? What would a man not do, who would thus willingly introduce his own language, and alter the language of his adversary?

We have now given a brief sketch of the case of Mrs. Jinn, but there still remains a necessity for glancing a little further at the testimony of doctors Davidge and N. R. Smith, especially the latter. We have already shown that doctor Davidge argued this case against me, not having seen the patient, that throughout he spoke of the case not according to the testimony before him, to this he paid no attention, unless it seemed to militate against me, but as it was represented in the pamphlet, where he had studied his lessons.

*Certificate marked E. came to me through the post office a short time before the trial, and shows that he was disposed to get out of the scrape, till he was advised to set up a defence, and rely on certain men for support.

But the conduct of doctor N. R. Smith was, if possible, still more extraordinary. He entered the list like a combatant, affected no modesty in giving the most unfavourable opinions upon every thing I had done, and to reason against testimony in objecting to the "dinner," &c taking the assertions of Turnbull's pamphlet in preference; and saying he believed the patient bled to death, although doctor Jennings expressly said she did not. It is acknowledged in the pamphlet that I had some "glitter" of reputation, and that this was passing as real, hence the necessity of Turnbull undeceiving the public by his publication. The writer here tells too much, that doctor Jameson had reputation, but this did not deter doctor N. R. Smith, a young man, who had, perhaps, never performed an important surgical operation; certainly was never in any extent of practice, from coming into court, to testify by *opinions*, against a man so much his superior in years.

It is only necessary to state a portion of his testimony, and then compare it with a case reported by his father, to see by what motives he was actuated. He said this formidable operation was barely allowable, some disapproved of it. Should certainly be reserved for desperate cases? When proper, none but a small incision should be made, just to admit the finger,—if attachments could be discovered we were never to open the sac, must stop here and not enlarge the wound, and the introduction of a hand imminently hazardous; might occasion death of patient. The doctor having, with no small share of assurance, condemned every thing which had been done, and overlooking the fact that it was comparatively easy to reason, after all the difficulties which had been concealed till the operation, reasoned as if he would have known all this a priori.

He said patients might live many years, affected with this diseased state of the ovarium,—patient before him tapped every twelve or fifteen days. Much care necessary in deciding when the operation was necessary. The doctor was now asked whether a case recorded in the Medical Recorder,* said to have been operated on by his father, was a true report, he said it was,—it was read by Mr. Gill, and we found that his father did not think proper to try how long this patient could live with ovarian disease, nor was she left till "symptoms were urgent," which doctor N. R. Smith said would alone justify the operation. But the patient was going about, and suffered, we are told, much inconvenience in stooping at her ordinary business of house work; that the sac was not only loosened from attachments to the omentum, but after evacuating the water, it was found that the sac adhered extensively to the peritoneum: and yet it was cut away. Here we see no squeamishness about feeling with the finger, and about loosening attachments, and yet this patient had a speedy recovery.

Doctor Wright being sworn, said he would not have operated in such a case, but said every surgeon ought to judge for himself from the circumstances present. It will not be considered disrespectful to say here, that when doctor Wright says he would not have operated in this case, he had the advantage of knowing circumstances against it which could not be known till the cavity was opened, as there were no peculiarities in this case over other cases of ovarian disease, where operations were successful until the parts were opened: we must draw the conclusion, that he would not operate in any case of ovarian disease.

18 SPECIFICATION. "I showed this case when I received the proof sheet to one of the gentlemen who was present at the operation, and he mentioned it was a far worse story than the above."

It turned out, on the trial, that the gentleman here alluded to was doctor Jennings. It is only necessary for the reader to call to mind doctor Jennings' testimony throughout Mrs. Jinn's case, to see what a monstrous untruth is contained in this specification. But it may be necessary to state, that on this point doctor Jennings said, that he had, in the most pointed manner, told D. Turnbull, that it was very far from being true,—that he was displeased with a report so coarse and untrue; but he did say, that the truth, as it was an unfortunate case, which could not be understood by people in general, might do doctor Jameson more injury than

* See case at the end of the trial, marked I.—*Edr.*

the outrageous statement which the pamphlet contained, and which no body would believe.

4th CASE IN THE INDICTMENT.—1 SPECIFICATION. "In November, 1827, Mrs. Hannah Beams of Leesburgh, Virginia, a person of a remarkable vigorous constitution, had a small fungus over one of her eyes, from which she experienced little or no inconvenience."

It turned out, on the trial, that this lady, Mrs. Beans, from near Harpers ferry, had come to Baltimore to see doctor Davidge, who, upon seeing the patient, pronounced it an aneurism of the orbit. It covered a part of the temple, attended with much distress. I was, at his suggestion, called into consultation, and agreed in opinion; and also agreed to doctor Davidge's wishes that the patient should return home, the weather being extremely warm. But I can truly state, that in the propriety of this measure I did not agree, but it being doctor Davidge's patient, it would have been taking on an unpleasant responsibility in opposing this opinion. Had this patient been operated on at that time, instead of waiting to cause her to travel a hundred miles in very unpleasant weather in November, and undergo an operation at a season in which she could scarcely be prevented from taking cold, the unhappy termination which took place would, probably, never have happened. It will appear from the testimony that she suffered from taking cold. Need we say that a patient would not come twice to town a hundred miles, and be advised by doctor Davidge and myself to undergo the operation of tying the carotid on account of a tumour, "from which she experienced little or no inconvenience?" We have already seen it was aneurism, and, therefore, the declaration that Mrs. Beans was of a "remarkable vigorous constitution," would not prevent her from having aneurism, nor would it make her an unfit subject for operation.

2 SPECIFICATION. "After nearly two hours bungling, during which he at one time tied the internal carotid, and, at another, divided the superior thyroid artery by mistake, the unfortunate woman imprecating him to let her die without subjecting her to further torture, he desisted from his undertaking."

Doctor Davidge was brought up, and stated that I had missed my incision, making it too high by half an inch, that I now made a few insufficient incisions, and then went to work with the handle of the knife, and tore and dug away in the most unsurgical and cruel manner. That no good surgeon would ever think of using the handle of his knife, that he would dissect parts clear with the edge of the knife. That after long tearing and digging, I arrived at the internal carotid, and put a ligature about it. That he, doctor Davidge, saw at once what had been done, because the tumour continued to pulsate,—that doctors Annan and Jameson after repeated trials by the sight and touch, said there was no pulsation; but he could see it distinctly at the distance of two paces. It being acknowledged by these gentlemen that the common carotid was not tied, they now attempted to explain away the mistake which had been made, by saying there was some peculiarities in the anatomy; but that he saw none,—that there was none, if he might be allowed to judge who had long been a teacher of anatomy,—that now a new scene of distress began, that he suffered mental anguish while doctor Jameson again dug and lacerated, and tied the artery lower down where he ought to have tied it at first,—that nearly two hours were spent in the operation, when doctor Jameson did succeed in getting a ligature about the common carotid, but before he reached it he cut the superior thyroid artery,—that a good surgeon would do it in 7 to 10 minutes, (the language of pamphlet,) it had been taken up in 2 minutes. That to the excessive lacerations and contusion of parts, was to be ascribed the tetanus which took place a few days after the operation,—that punctured and lacerated wounds alone led to lock jaw, that where suppuration went on well no such thing as tetanus ever occurred, and yet he had seen the case of Sleeper's boy, who died in his care during my absence, caused by a suppurating wound, about a year before this tral. After having taken the utmost pains to convince the jury that this was a dreadful operation, and that to it, and to nothing else, could be ascribed her death, he went on to say that he had thoughts, several times, of leaving the room during the operation. He was now asked whether he had not reported in Burns' surgical anatomy, through Mr. Pattison, a case of operation by himself on the carotid, he said

there had been a case, where, after such an operation, the patient was sent home in an open boat, caught cold, and died some weeks afterwards; that the young friend who had charge of the case wrote him the patient had something like spasms,—that he had got the *patient's head*, in which he found some disease of the brain, (the reader will recollect this patient was at a considerable distance, and putrefaction must have existed; nothing of disease of the brain in the report of the case.) The case being now read, it appeared in plain and unvarnished language, that this man had died of locked jaw after undergoing the operation of tying the carotid by doctor Davidge. The doctor was now asked whether he had ever told any one that doctor Jameson had performed the operation well on Mrs. Beans, he said, unhesitatingly, no. Mr. John Dukehart, a most respectable relative of the patient, being sworn, said that he waited down stairs while the operation was performing, that when over, doctor Davidge descended the stairs apparently well pleased, and upon being asked whether the operation was over, he replied, yes, it is done, and it is well done. The next day doctor Davidge came up before the court to explain, and said he had merely said this to relieve the anxiety of Mr. Dukehart, &c. Mr. Dukehart also proved that this was doctor Davidge's patient, that some of the friends of Mrs. Beans were desirous of seeing doctor Jameson also, believing that doctor Davidge was rather indisposed to operate on account of his advanced age,—that knowing there were two distinct interests in the two medical schools, they had some apprehension there might be some difficulty in getting doctors Davidge and Jameson to act in concert. But upon calling on doctor Davidge, he relieved them by requesting that doctor Jameson might be called into consultation with a view of getting him to operate. In the course of conversation on the case of this lady, doctor Davidge spoke of doctor Jameson in the highest terms of respect as an operator; and said if he had an operation to be performed on his own person he would select doctor Jameson. Doctor Davidge was now asked by the states's attorney whether prior to these remarks respecting doctor Jameson, and his having advised Mrs. Beans to get him to operate, he had knowledge of the publication made by D. Turnbull, he said he was aware of it,—and went on to say he had seen doctor Jameson perform some handsome operations, and also some most disgraceful, but did not point out any such cases. That he considered him a mere practised man, &c. Here the state's attorney produced a letter from doctor Davidge, (see certificate F,) acknowledging that he had in the year 1822, engaged doctor Jameson to perform a suit of operations before his class in the medical college, and a polite dismissal, saying Mr. Pattison, one of their body, had come forward and made ample apologies, and wished the situation. I have to state that at this time he told me his reason for asking my assistance was a defect of vision. A letter was also read from doctor Davidge to doctor Jameson while the latter was at Anapolis soliciting a charter for a new medical school, in which doctor Davidge says to doctor Jameson, as a professional man you have my highest consideration and regard, &c. (See certificate H.) An attempt was also made to read a letter from doctor Davidge to doctor Jameson, in which he proposes leaving the old school and coming over to the new, provided he could have a certain chair allotted which would suit his failing vision,—that doctor De Butts was from home, but would certainly join the new school also. The counsel for Dr. Hinze opposed the reading of this letter, and their objections were sustained by the court; but the argument advanced on both sides went to develope the whole contents of the letter, (see certificate G,)—showing, therefore, most clearly, that there was no sincerity in what doctor Davidge said about doctor Jameson being a mere operator. In short, such was the zeal of doctor Davidge in this case, that the chief judge asked him aloud whether he was employed to plead the cause. Mrs. Balderson was sworn, and testified that she was a relative of Mrs. Beans, that the operation was performed at the house of her husband. That the two first days after the operation the patient was doing well, but in bed; on the third she set up, fourth day she sat longer, fifth day up with good appetite, sixth day also setting up. Doctor Jameson had repeatedly admonished her not to expose herself, the weather being cold she incurred risk of taking cold,—notwithstanding on the seventh day

she set up, took off her double wrapper, and also put away a blanket which had till this day hung on her chair, and kept on a common dress and thin shawl. This day she took cold, and this day she was in good spirits, talked of going home in a few days, and had a good appetite,—eighth day got up herself, set up all day, and sewed three or four hours,—ninth day cold began to show itself in neck, which became sore, and was poulticed,—tenth she was ill all day with increasing stiffness of neck,—eleventh, lock jaw fully developed and extremely violent, this night she died.

Doctor Annan being called, testified that he was engaged in assisting doctor Jameson, so far as assistance could be afforded, throughout the operation,—that doctor Davidge through the whole time appeared morbidly irritable, and instead of taking an interest in the case kept walking about, and very frequently looked at his watch,—that this lady was of a robust make, with short thick neck, and much fat between skin and vessels of neck; that doctor Jameson made his first incision in the usual place, and two and a half to three inches in length, and then dissected cautiously down to the artery, using the edge and handle of the knife alternately, in all which he saw nothing unusual, except that more time was necessary than in many other cases, on account of the fatness of the neck. That he arrived at an artery in the usual situation of tying the common carotid, doctor Jameson remarked that the artery was too small for the common carotid, but proceeded to put a ligature on it: There was some difficulty now in deciding whether the tumour still pulsated,—he could not at first feel nor see it. Dr. Davidge requested doctor Annan to wash his hands, which he did, and then decided that the pulsation was not stopped; doctor Jameson's fingers being covered with dried blood he did not feel at all, as stated by doctor Davidge. Doctor Jameson now concluded there must be an aberration from the usual arrangement of the vessels, and, therefore, extended his external incision further down, and traced the artery which he had exposed to the bifurcation, reached the common trunk and tied it. It was now manifest that the artery bifurcated lower down than usual, that the internal carotid, just above the division, ascended above the external, that doctor Jameson *had not cut the superior artery*, but a thyroidan branch, which passes over to the sterno mastoid muscle. That it was a tedious extremely perplexing operation, but all the difficulty owing to the aberration of structure, that under circumstances so unpropitious, doctor Jameson manifested no want of skill, that to dissect among parts so important and the relations of which could only be understood as he proceeded, was difficult. That doctor Jameson was not disconcerted, but remained perfectly cool and collected, thought and acted free from embarrassment. That in short, though the operation was tedious, he could not believe that it occupied more than three quarters to an hour, and, in short, such was doctor Davidge's irritability that he was scarcely competent to keep time; all was fairly ascribable to the anomaly of the vessels, and eventually the *operation was completed*. And, finally, after the artery was tied *doctor Jameson called to doctor Davidge to examine the parts, and lifted the common trunk,—the doctor wished to avoid an examination, saying his sight was bad, doctor Jameson urged him to feel and look at external parts, which he did, and acknowledged that there was an unusual division of vessels.* Doctor Jameson did not, therefore, desist from his undertaking till it was completed.

3 SPECIFICATION. "What was the result? In consequence of the excessive lacerations and contusions so unnecessarily inflicted, symptoms of tetanus (locked jaw) soon supervened, and after a few days of the most unparalleled sufferings terminated her existence. This most horrible transaction occurred at the house of Hugh Balderson, Lumbert street." In a note it is said, "an operation which is usually completed in from seven to ten minutes."

Davidge's own patient, by his own reluctant acknowledgment, died of tetanus, he said from cold; Mrs. Balterson accounted for the decease of Mrs. Beans from the same cause. Those "unparalleled sufferings" represented by doctor Davidge in his testimony, and in the pamphlet, we have seen by the testimony of Mrs. B. never existed. The patient being on a happy recovery, to all appearance, till she took cold and was overtaken with tetanus.

5th CASE OF THE INDICTMENT.—1 SPECIFICATION. "Mrs. Mary Taylor of Quaker

neck, Kent county, Maryland, came to this city in November last for advice respecting a cancerous breast."

A letter was produced in court from doctor Anderson of the eastern shore, referring the case of Mrs. Taylor entirely to the care of doctor Jameson, and requesting him, as a friend, to do whatever he might deem best for an unfortunate and worthy woman, unable to compensate him. It was also proved by doctor Annan and doctor Miller, that they heard the patient say she had been visited in Baltimore by other physicians, that she had not sent for them, and had told them she had been sent to doctor Jameson by her friend doctor Anderson, that she knew no body in this business but him: he had sent her to doctor Jameson, and she wanted him to do whatever he might think proper. From which it appears, that instead of doctor Jameson's knowing any thing of other opinions counter to his own, he was merely informed, that through the officiousness of doctor Hinze, others had been called in, but of whose opinion he knew nothing.

2 SPECIFICATION. "Four practitioners of surgery in this city and one in Chestertown having examined the case found such extensive connexion of local disease, together with other evidences of constitutional derangement, as induced them unhesitatingly to pronounce against any attempt at extirpating the disease with the knife, stating, that without interfering with the diseased parts, the patient was likely to live for years by the use of internal means, the irritation consequent upon the disease could be modified, but that any attempt at extirpation would prove speedily fatal."

Not one word was said by Hinze's counsel of any gentleman on the eastern shore having given any opinion on the case. Doctors Wright and Turnbull were brought up and testified, that they had seen this case with, and at the instance of doctor Hinze, that they disapproved of an operation, viewing the disease as having advanced to that stage when nothing could be expected from operation, but they did not confer with doctor Jameson, nor was there any proof of his having any knowledge of their opinions,—what foundation, then, for the assertion, that "in defiance of these decisions, and in violation of every correct principle of surgery did doctor Jameson undertake to operate?" And what are we to think of such language from doctor Hinze, when we have it in proof, by D. Turnbull, that Hinze, after hearing the opinion of the consultation, of which he was a member, called on him a second time, to see whether he would not consent to sustain him in an operation, saying the case was his if he chose to take it; and if not Jameson would operate.

Doctor Wright's objections were chiefly founded on the belief that this patient was scrofulous, and the glands about the axilla clavicle and neck swoln, and the breast very painful, and the cancer having suppurated,—we shall see presently by the testimony of doctor Annan, that there was nothing like suppuration when the breast was examined after its removal. Doctor Wright continued to say that he would not have operated, but every surgeon had a right to judge for himself,—that in this case nothing was to be expected from general treatment, and, therefore, in his opinion, the patient ought to have been left to her fate. Doctor Hall said he had not been in consultation, but had at the request of doctor H. visited the woman alone,—held out "no encouragement, neither did he discourage," but that he would not consent to touch it with the knife,—thought the disease was connected with vital parts,—no salvation for the patient,—no immediate danger,—might be put under constitutional treatment,—operation would hasten death; we have already stated that of all this doctor Jameson knew nothing till the time of trial. Dr. Turnbull had little to say different from the gentlemen just named,—thought, however, that the vessels in the axilla were involed in the tumour, but said he saw no reason why the tumour might not all be removed,—that there was no authority for such an operation,—sir Astley Cooper dare not operate without concurrence of other members of the profession,—extent of disease too great to be removed, but *if you can improve the constitution* and circumscribe limits you may operate.—It will be observed that no part of this testimony goes to support the assertion, that by proper treatment the patient was "likely to live for years;" or that "by

the use of internal means the irritation consequent upon the disease could be modified."*

Miss Thomas being sworn, said that doctor Jameson had operated on Mrs. Taylor at her mother's house, that she had been sent to doctor Jameson by doctor Anderson,—a few days after operation while doing well, the arm on affected side took on erysipelas and swelling; continued long swoln, hand was scarified, and discharged much water,—patient had been carefully attended by Jameson,—that the wound healed up kindly a considerable time before her death, and continued sound,—that she suffered no pain after operation,—after some continuance of the erysipelas, she took a severe cold, and died about two months after the operation. Miss Thomas has, therefore, set at rest the base assertion, that after "she lingered a few weeks she expired,"—"after *enduring the most indescribable sufferings.*" Doctor Annan being called up stated, that he had seen Mrs. Taylor in consultation with doctors Miller and Jameson, that all present viewed it as a very hopeless case,—the breast was in a state of scirrhus approaching to cancer,—observed an extensive affection of the glands, of arm pits, and neck, which had all an appearance of being scrofulous,—and, therefore, it was hoped, that although but a slender chance, that if the scirrhus was removed the scrofulous affection might be mitigated,—that death by cancer was one of the most horrible, and justified an attempt even in a doubtful case,—that he had no evidence of suppuration, that after operation it was seen that there was *no suppuration.* He, therefore, recommended the operation,—that the erysipelas was, probably, an accidental thing, most likely to occur in a scrofulous habit, and might supervene on any wound,—skin on tumour not broken, but the pain extremely severe before operation.

Doctor Miller said he had been in consultation on the case of Mrs. Taylor, that he formed a very unfavourable opinion of the case,—it was chronic scrofula, the patient saying that some of the glands had been diseased for many years before there was any disease of breast, that the disease in the mamma had been of short duration, that he deemed a cure out of the question, but under all the circumstances he had advised the operation, and, therefore, if there was any thing wrong he was a particeps criminis,—that he deemed the operation warrantable, because there was a hope that by relieving the patient of one disease, the most formidable; and leaving her to contend with one instead of two, would be increasing the chances of her suffering less and living longer; since if the scirrhus was removed, the scrofula, though not curable as it there existed, still it might have been borne. Saw patient some time after operation, labouring under affection of chest,—wound healed up. Had doubts whether the affection of the arm was a genuine erysipelas, believed that owing to swelling there might be some compression of the nerves, which led to the effusion of fluid in the arm, owing to loss of nervous energy.

Doctor Davidge came forward and commenced his address to the jury, (for in each case he assumed the attitude of an advocate, and never did advocate show more zeal than did doctor D. in every case.) He commenced by saying that it was a settled point in surgery never to operate on a pregnant woman. Here he was interrupted by a general burst of laughter,—he showed no little mortification at missing his mark so far: Mrs. Taylor, as he was now reminded, being upwards of fifty, and long a widow, was not likely to have been pregnant. Something had been said about a miscarriage in the case of captain Hamilton's woman already noticed. He soon proceeded, and said he only wanted time to explain, and he was confident the more fully he explained, the better would he be understood by the jury. He then went on to say that no two diseases exist at the same time; if cancer exists in one gland, and any other disease, such as scrofula, exist in any other, that will become cancerous also. When fever appears in scrofula, that disease (the scrofula) for the time ceases,—so that if the breast was scirrhus this was cancer, and cancer or scirrhus existing, then no other disease could exist in any other gland,—therefore, it was unskilful and contrary to the best authorities and fixed principles in surgery, to attempt to remove any scirrhus gland, unless every gland in the body

* Her Turnbull, by some strange mistake, told the jury that he had opened the belly of a woman, but she died. The case is known to have been cholic.

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having any appearance of disease in it was removed also. No good surgeon would attempt to distinguish between scrofulous and cancerous glands; and from all the testimony he could not believe that there was any scrofula in the case of Mrs. Taylor, but the contrary. That a cancer of the breast will affect the glands in any part of the body,—scirrhus will exist for years, and yet he said no difference between scirrhus and cancer,—lungs apt to be diseased after cancer. He attempted to sneer at what doctor Miller had said respecting the nerves, and gravely told the jury *the nerves never secreted water.* Doctor Handy being called up stated that a lady had a scirrhus tumour removed from her breast by doctor Physick, who did well, had no return of cancer,—doctor Davidge objected to this as a mistake, saying that doctor Physick must have been mistaken; that the doctor had acquired his views on this subject long since in England, and was a man little disposed to change or improvement, but that all the best authorities of the present time hold the opposite opinion,—the day before he had occasion to speak of Mr. Abernethy as being among the best authorities in the world,—he was, therefore, now asked what was Mr. Abernethy's opinions on this point; with a good deal of hesitancy, he said he differed with him. We must not here lose sight of the fact, that Mrs. Taylor's case was viewed by doctors Wright, Miller, and Annan, as being scrofulous, except the breast: how, then, did doctor Davidge find out without seeing her, that she was not scrofulous,—for he expressly said, "cancer will control other glands, and the tumefaction is cancerous."

3 SPECIFICATION. "Volumes of similar "*wonderful operations*" could be adduced, and amply authenticated, but the recital of these tragic scenes excites such feelings of horror, that we involuntarily shrink from a further investigation. We have thus far discharged our duty, we leave the public to decide whether with these facts staring them in the face, they are still disposed to be thus duped, and sacrifice their lives at the shrine of credulity."

We have already noticed the mean attempt at playing off the words *wonderful operations* as having been applied by me to myself They are here introduced as being mine. Is it not "wonderful" that such attempts at detraction should find support in the profession? What are we to think of doctors Davidge, Hall, and Smith, coming forward to support such foul charges against a competitor, whom they have never dared openly to defame, but to screen themselves behind Turnbull and Hinze? They were brought forward avowedly as the principal witnesses in cases they had not seen, and unmoved by the monstrous fact, at the very threshold of the trial, that doctor Hinze had been attempting to suborn a witness. And, although they were confronted in every case by disinterested men, who were at least their professional equals, and who said doctor Jameson had performed these operations, not only in their presence, but with their approbation, and in every case it was said he had acquitted himself well as an operator. Conduct like this could not fail, indeed, to excite public feeling; and well may it be said, that the "recital of such tragic scenes excited such horrors," that both principals and abettors would willingly have shrunk from "investigation" long before the close of the trial.*

It has been stated in the commencement of this report that one juror was suffered to remain on the jury after he had declared himself prejudiced against me. This must be, at least, a clear proof, that the state's attorney was so fully persuaded of the goodness of his cause, as to satisfy him that we had nothing to fear, although some of the jury were prejudiced against me. And still more remarkable, another of the jury, Mr. Reese, when called into the box, said he had prejudices in my favour, he was dismissed at once.

It was my privilege, this being a criminal action, to have claimed the right of witness on the part of the state, but I was too conscious of my own innocence and the justice of my cause, to object to the juror against me, which I might have done; or to give evidence in cases in which I was interested,—I, therefore, gave no evidence.

After a tedious sitting of eight days, most of which time was taken up

* Dr. Smith absented himself the two last days, rumour said that he was told his reputation was suffering.

by my professional enemies, having full privilege to enter into the most minute and intricate doctrines, about which neither the court nor the jury knew any thing more than they did of Hebrew, the jury retired and agreed on their verdict in ten minutes, and came into court at the time appointed, which was two hours. After conversation had with Hinze's counsel, Jacob Graff, the juryman who acknowledged his prejudice against me, now said he had misunderstood the charge of the judge. Three of the jury subsequently told me he had not said one word to the jury about that part of the charge of the court, at which he would now have balked. And Mr. Gill told me some of the jury were willing to give counter affidavits to that of Graff. The court, however, decided that there was no ground for a new trial, and dismissed the case with a fine of fifty dollars.

Still, there were those, who, willing to lessen the enormity of the conduct of several of the witnesses, caused a publication to be made in a newspaper, in which the dissention or pretended repentance of Graff, was held up as a circumstance showing that the case was involved in some doubt or difficulty.

In conclusion, I will not complain, but I now submit to an unprejudiced and discerning public, how far the decision of the court is suited to the enormity of the offence against the laws and dignity of the state, against the dignity of the medical profession, and against my rights as a citizen of the state of Maryland, and a member of the profession of medicine.

I trust I need not tell the readers of the Recorder that I have been a faithful labourer in my profession. I have now nearly reached my fiftieth year, I have endeavoured to walk blameless. My professional character has been aspersed, and a vile libellous publication circulated over every part of the country where it was supposed my name had reached. This foul publication was republished by a boy in the profession; and three professors avowed their willingness to be principal witnesses, in cases, most of which they had not seen. In short, it was such a combination as few men could withstand, and in my case, nothing but a most fortunate coincidence of circumstances, could have enabled me to refute falsehoods respecting cases which had occurred several years back. After all this wickedness is fully proved, and an attempt on the part of Hinze to suborn a witness, still the court thought a fine of fifty dollars was the penalty suited to the crime of doctor Hinze; and, although Turnbull avowed in court that he had circulated eight hundred copies of his pamphlets, every sentence of which was proved in court to be false; still the court did not think my case demanded further notice And I am left nothing but the consolation, that my enemies could not destroy me, and to find my way amid their increased hatred. The principals in these scenes of defamation, by using others, keep out of my reach; while Hinze remains safe from a civil action, because he has conveyed away his property to escape punishment in some degree commensurate with the enormity of the offence.

Baltimore, Nov. 13th, 1828. HORATIO G. JAMESON.

CERTIFICATES.

Certificate A.

Baltimore, Feb. 20, 1824.

Believing it to be the duty of every man in society to contradict unfounded reports involving the health and lives of our fellow creatures, and being aware of certain reports now in circulation, which concerns the reputation of doctor Horatio G. Jameson of this city, I have thought proper to make known the following facts.

Sometime in the month of March or April, 1821, my brother placed himself under the care of professor Pattison of this city. He was affected with a tumour, which I repeatedly heard Mr. Pattison call a polypus of the hollow, or antrum of the cheek. Mr. Pattison operated in the case. He cut away the tumour, chisselled and malletted away much of the bones of the face,—took out the eye, &c. But he did not take up any artery in the neck, or in any way operate on the neck. The tumour soon began to grow again, and baffled all attempts at keeping it down; after more than two months treatment and suffering in the hands of Mr. Pattison, the case was given up as being incurable, and my brother died three months after

the operation. While in the habit of visiting my brother, I frequently heard the doctors who met there say, that Underwood's case was doing no good, and was growing again rapidly. This led me to inquire of doctor Jameson respecting that case, and the doctor assured me that his patient was quite well, a fact since known to the people, generally, of this city. From conversing with doctor Jameson at the time alluded to, I clearly understood that he did not treat Underwood's case as did Mr. Pattison that of my brother, and this has always been a source of much regret to me, the more so, as my brother was a man uncommonly healthy, and of a strong and excellent constitution. Wm. Jefferson.

State of Maryland, city of Baltimore, to wit: On this twentieth of February, 1824, before the subscriber, a justice of the peace in and for the city aforesaid, appeared William Jefferson, who subscribed his name to the foregoing instrument of writing, and made oath on the holy evangelists of Almighty God, that the facts therein stated by him are true as there stated.

Given under my hand the day and year aforesaid.

Rob. Gorsuch.

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Certificate B.

James Underwood has been under our care during the space of about ten months. His disease is a tumour, having its origin upon the superior jaw bone: it is exceedingly distressful, and its character and connexions are such as have hitherto forbidden any attempt at extirpation. Although a resort has at last been made for relief to one of the measures which surgery affords, yet success is doubtful, and the means to obtain it are full of suffering,—we consider him to have a slender tenure upon life, and should be glad if that commiseration were excited for his family which their peculiar situation seems to demand.

Baltimore, 10th month, 2nd, 1820. J. B. D.* M. D.
E. G.† M. D.

Since this certificate was furnished we have relinquished our plan of extirpating J. U.'s tumour. *10th month, 15th,* 1820. E. G.‡

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Certificate C.

I hereby certify that some time in October, 1820, I was requested by doctor E. Gillingham to attend an operation to be performed by him on James Underwood, for the extirpation of a tumour of the mouth; which I had previously examined by the request of doctor G. about nine months before.

The appearance of the tumour at the time first mentioned was extremely formidable, and the situation of the patient apparently desperate.

I perfectly recollect meeting professor Pattison among a number of other medical gentlemen; and, in consequence of Underwood having applied to some of the most distinguished members of the profession, both in Baltimore and Philadelphia, who had advised against an operation, I was desirous of ascertaining the opinion of professor Pattison relative to the case, and, therefore, inquired of him if he had seen any thing similar in Europe, and whether the operation was likely to prove successful. He observed, in reply, that he had seen similar tumours, which were always operated on invariably with unfavourable results; and that, in the present case, whether the operation was performed or not, the disease would prove fatal.

In consequence of doctor Gillingham's determination not to operate on the day above mentioned, professor Davidge, who was to have assisted him, endeavoured to strangulate the tumour by putting a wire ligature upon it, which in a few days proved abortive. The case was a short time afterwards operated on by doctor Jameson successfully. I have frequently conversed with Underwood since the removal of the tumour, and am entirely satisfied that the disease is completely eradicated. *Baltimore, 7th February,* 1823. J. Bain, M. D.

* John B. Davidge.—† Ezra Gillingham.—‡ Ezra Gillingham.

City of Baltimore, ss. February 14th, 1824, before me a justice of the peace in and for said city, came James Bain, and on the holy evangelists of Almighty God, made oath that the foregoing certificate contains the truth to the best of his knowledge and belief.

E. H. Cummins.

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Certificate D.

State of Ohio, Jefferson county, ss.

On the first day of April, A. D. 1828, doctor Benjamin Dickson personally appeared before me at my office in Steubenville in said county, and being duly sworn according to law, saith:

That on invitation of Horatio G. Jameson, M. D., of Baltimore, he attended an operation for stone, some time between the spring of 1820 and fall of 1822, on a boy whose name he believes to be Ballinger, (the same operation detailed in Turnbull's pamphlet,) that, after making an opening into the bladder, no stone was found, but just within the neck of the bladder a fibro-cartilaginous tumour about the size of a small kidney bean appeared over the surface, of which he, the said Benjamin Dickson, M. D., passed a catheter several times, and a grating sensation, similar to that felt when a staff or catheter rubs against a stone in the bladder, was perceived. That he, the said Benjamin Dickson, called in the course of a few weeks, he thinks three or four afterwards, to see the boy, when he was informed, by his mother, that he was perfectly well and out at play.

Benjamin Dickson, M. D., also says on oath, that he has often heard doctor Chapman express entire confidence in the medical and surgical acquirements of H. G. Jameson, of whom he spoke as his first choice in consultation, and often called him where he, the said doctor Chapman, was attending physician or surgeon.

Benjamin Dickson.

Sworn and subscribed before me the date first herein written.

A. Sutherland, justice of the peace.

State of Ohio, Jefferson county. Ss. court of common pleas.

In testimony that Alexander Sutherland, esquire, before whom the above deposition was made, is a justice of the peace within and for said county, to whose official acts as such full faith and credit are due, I have hereunto set my hand, and affixed the seal of said court at Steubenville, this first day of April, A. D. 1828.

James Patterson, deputy clerk.

—

Certificate E.

Baltimore, April 6th, 1828.

Sir,—It has always afforded me pleasure to do an act of justice or expose presumptuous malice, and bring condign punishment on wicked combinations, or their more desperate agents; and I have addressed you, upon the present occasion, for the purpose of exposing the persons, who, upon a recent occasion, combined to render you odious in public estimation; malice was the moving principle of the first, interest of the second; and a desire to appear conspicuous, induced a third to lend his convenient aid, and execute the designs of the others. Doctor C*****n of Lexington street, composed, doctor Br***tt of High street, O. T. (a plain old man who wanted your situation,) corrected, and a very busy little fellow who is too well known to you to require naming, executed at a *Dutch* printing office this abominable production. If your counsel take care, they can commit the three upon their own statements.

One who knows.

—

Certificate F.

Conewago street, February, 1822.

Dear sir,—Since I had the *interview with you* professor Pattison has come forward and made every acknowledgment that I could possibly receive from, or wish to be given by any gentleman; he has, in the most liberal and handsome manner, retracted his pretensions to the professorship of anatomy, and ingenuously placed matters on their proper foot. In consequence of which, joined to an earnest desire of the faculty that our departments should remain as hitherto, I have to express my sincerest obligations to you for your *polite assent to aid me in my practical surgery before the class,*—and to

assure you that any attentions that would be acceptable to you from me, will be rendered with the utmost readiness and pleasure,—your liberal sentiments will accord with mine, in the opinion, that after what has passed, it would be neither manly nor decorous to refuse the co-operation of professor Pattison.

Accept the assurance of my most respectful consideration. Yours, Jno. B. Davidge.

Dr. H. G. Jameson.

—

Certificate G.

Lexington street, December 3d, 1825.

Dear sir,—If the school now coming into operation will allot to me the chair of pathological and practical medicine, I will be a member. In this place I am stronger and more at home than in any other,—my feelings are more with me, and my failing vision is not so much called on. De Butts will certainly join. He is now from home. And I will, as far as my authority and influence will go, place Dr. Annan advantageously before the public, in midwifery. Very respectfully yours, Jno. B. Davidge.

N. B. This communication is private. Let me see you when it may be convenient.

J. B. D.

—

Certificate H.

Baltimore, 24th, 1826.

Dear sir,—Your kind favour was delivered to me by my son, who found it in his office, with the seal broken and open. I do not recollect that I have ever before received a letter under similar circumstances.

Eight or ten days ago I received a letter from a member of the senate, requesting my opinion on the probable operation of the establishment of the contemplated college on the present university. I informed him, that, in my opinion, the operation would be serious, and, probably, that in the mutual effects, both would fall into ruins. This is, *at present*, my impression. In it, however, I may be mistaken, the two, possibly, by the multiplication of sources of knowledge, may improve each other, and benefit the state. Coming, as the letter did, from such authority, it was a duty, with which I could not dispense, to give it an ingenuous answer. I have not had, for some time past, much reason to be pleased with our present establishment; and I have now less than I ever had.

As a professional man, you possess my respectful consideration and regard. And any step I can take, with propriety, will certainly be in your favour. But, as a member of the present university, you must allow me to be silent; I am too deeply interested, and too delicately situated. I can do nothing that would militate against myself under my present relations, and I am satisfied that you would not require that I should.

I should be extremely gratified if the legislature would appoint a committee of inquiry, and instruct them to look into our present condition, and make a report to the house.

You will recollect that all my communications with you, whether by letter or by word, have had one basis. The agents have passed a resolution that I am not to receive and instruct private pupils. This is to restrain the number of pupils; abridge them in their rights, and disable me in the use of my property,—the *most honourable and valuable of all property,—intellectual possession;* but I must submit, and leave the affair to the state, to time, and to circumstance.

For your politeness in regard to the tickets of De Butts and myself, I feel obliged to you. You may expect me, under all circumstances, as far as honour and propriety extend, to be your friend. J. B. Davidge.

H. G. Jameson, M. D.

I.

Case of Ovarian Dropsy, successfully removed by a surgical operation. **Communicated by Dr. NATHAN SMITH, professor of physic and surgery at Yale college.**

The subject of this operation was a Mrs. Strobridge, of Norwich, Vermont, aged thirty-three years.

The following account of the case, previous to the operation, was taken from the patient:—Seven years before she perceived a small tumour in her right side, situated in the right iliac region; when about the size of a goose egg, she could move it with her hand to the opposite side of the linea alba, and to some distance above the umbilicus. The patient had borne five children, two previous and three subsequent to her discovering the tumour. The youngest child was ten months old, and was nursed at the breast when she submitted to the operation. Soon after her first pregnancy, from the commencement of the tumour, and when, as she thinks, it was about four or five inches in diameter, it suddenly disappeared, probably burst into the abdomen. In four or five weeks it was as large as before. Before and after the bursting of the tumour she had turns of faintness, which lasted from two hours to half a day. During parturition of her second child, after the commencement of the tumour, it having acquired a considerable size, it burst again, and nothing was perceived of it till eight months had elapsed. In four days from its reappearance it was as large as it had ever been. It was again burst by a fall; great soreness of the abdomen, and confinement of the patient for several weeks was the consequence. The tumour filled again in a fortnight, and from this time continued to increase; it did not burst in the delivery of her last child, which was ten months previous to the operation. The patient's health was not much affected by the tumour. She was costive; and the size of the tumour incommoded her in the ordinary duties of her family, especially in stooping. On examination I found a large tumour in the right side of the abdomen; it was considerably moveable, and I could produce a distinct fluctuation through it.

Having decided on the operation, and determined the mode of operating, on the fifth of July, in the presence, and with the assistance, of doctors Lewis, Mussy, Dana, and Hatch, I commenced the operation as follows:—

The patient being placed on a bed, with her head and shoulders somewhat raised, an assistant rolled up the tumour to the middle of the abdomen, and held it there. I then commenced an incision about an inch below the umbilicus, directly in the linea alba, and extended it downwards three inches. I carried it down to the peritoneum, and then stopped till the blood ceased to flow, which it soon did. I then divided the peritoneum the whole extent of the external incision. The tumour, now exposed to view, was punctured; a canula introduced, and seven pints of a dark coloured ropy fluid was discharged into a vessel, about one pint was spilt, so that the whole fluid was about eight pounds. Previous to tapping the tumour, by inserting my finger in the side of it, I ascertained that it adhered to some extent to the parietes of the abdomen, on the right side, between the spine of the ileum and false ribs. After evacuating the fluid I drew out the sack, which brought out with it, and adhering to it, a considerable portion of the omentum. This was separated from the sack with the knife; and two arteries, which we feared might bleed, were tied with leather ligatures, and the omentum was returned. By continuing to pull out the sack, the ovarian ligament was brought out, this was cut off, two small arteries, secured with leather ligatures, and the ligament was then returned. I then endeavoured to separate the sack from its adhesions to the parietes of the abdomen, which occupied a space about two inches square; this was effected by a slight stroke of the knife at the anterior part of the adhesion, and by use of the fingers. The sack then came out whole, excepting where the juncture was made, and I should think it might weigh between 2 and 4 ounces. The incision was then closed with adhesive plaster, and a bandage applied over the abdomen. No unfavourable symptoms occurred after the operation; in three weeks the patient was able to sit up and walk, and has since perfectly recovered.

I was induced to undertake this operation from the following considerations;—The patient, though her health was not greatly impaired, was sensibly affected by the disease. She was quite certain that the increase of the tumour, in a given time, was augmented; probably, at no very distant period, it would destroy her. I had, also, an

opportunity to dissect the body of a patient, who had died of ovarian dropsy, after being tapped seven times. In this case the sack was found to be in the right ovarium, which filled the whole abdomen; but it adhered to no part except the proper ligament, which was no larger than the finger of a man. I have seen two other ovarian sacks which were taken from patients after death. They had been tapped several times; the sacks were equally unattached, except to their own proper ligaments. Hence, I inferred, that in a case of ovarian dropsy, while the tumour remained moveable, it might be removed with a prospect of success. The mode of operating, practised in the above case, is the same as I have described to my pupils in several of my last courses of lectures on surgery. The event has justified my previous opinions.*

WEBSTER'S MANUAL OF CHEMISTRY.—Messrs. RICHARDSON & LORD, Boston, have just published a second edition of A MANUAL OF CHEMISTRY, by JOHN W. WEBSTER, M. D. Erving Professor of Chemistry and Mineralogy in Harvard University.

We gave a notice of the first edition in No. 39, page 198, Recorder, and then expressed our opinion of the value of the work; the fact of a second edition being called for within two years, is sufficient evidence of its value. The present edition is very considerably improved, comprehending the recent discoveries, and illustrated with plates, wood-cuts, &c. Upon the whole, we have no hesitation in saying that we consider it better adapted for the use of students than any similar work extant.

COOPER'S SURGERY, & EDWARD'S SURGICAL ANATOMY.—THOMAS DESILVER, Bookseller, No. 267 Market Street, Philadelphia, has just published the FIRST LINES OF SURGERY, by Samuel Cooper, also A MANUAL OF SURGICAL ANATOMY, by H. M. Edwards, both with notes and additions. That the profession may form some idea of these works, we give the notice to the 2d American Edition of the former, and an abstract of the Translator's preface to the latter.

NOTICE TO THE SECOND AMERICAN EDITION OF COOPER'S SURGERY.

In presenting to the notice of the medical profession, a second American, from the last London edition, of the valuable work of Mr. Cooper, the publishers have spared no expense to render it, independent of its intrinsic merits, still more interesting and valuable to the American practitioner. To accomplish this end, the valuable suggestions and improvements which have emanated from distinguished American surgeons, as Physic, Gibson, Mott, Stevens, Jameson, Dudley, Warren, Davidge, Barton, &c. have been introduced, and, in some instances, illustrated by additional copperplates. These, together with the valuable notes of Professor Stevens, which are also contained in this edition, will give a fair view of what has been accomplished in this country within a very few years.

The notes of the Philadelphia Editor are designated by the initials P. E., which will be found at the end of each; those by Professor Stevens are contained at the end of each volume. In the appendix to the second volume, will be found Dr. Rhea

* The author, at the time of reporting the above case, was ignorant that Dr. Dzondi had proposed the attempt to cure ovarian dropsy by the introduction of a tent following puncture, that the dropsical sack might slough, and be withdrawn by forceps.—Vid. Medical Recorder, vol. iii, p. 63.

*** We did not intend to have commented on the foregoing abstract of the trial between Dr. Jameson and his professional brethren in Baltimore, but circumstances have induced us to depart from this determination: We are told that we shall offend some of the parties concerned, and that we may lose subscribers, &c. We always regret when we are compelled, in justice to truth and the independence of our Journal, to publish any thing calculated to create unpleasant feelings; but if it is for a moment supposed that we should refrain from doing our duty for fear of offending or losing a few subscribers, we can only say our characters have been mistaken. We neither can nor will screen any one from just and merited censure, no matter how elevated the station he may occupy, or how distinguished his rank in the profession. In the present instance, had not the subject been important and instructive in a professional point of view, we should have felt bound in justice to our Journal, to have published the abstract, in as much as several of the cases mentioned in the trial were published in the Recorder;—besides, Dr. Jameson is a regular contributor to our Journal, and many of his communications to it have been republished in the European Journals. As an evidence, however, of our desire to do justice to all parties concerned, if it be considered necessary, our pages are open to an *appropriate reply*.—Eds. Am. Med. Recorder.

Barton's operation for anchylosis; Jameson's treatment of stricture of the œsophagus; Matthews's stomach pump, (all accompanied with plates,) and several other subjects not alluded to by Mr. Cooper. In addition, several chapters, omitted by Mr. C. in this edition, and which are considered important, have been introduced.

Philadelphia, October, 1828.

THE MANUAL of DR. EDWARDS, while it avoids tedious and complicated details, comprehends all that is most essential and instructive in the large treatise of M. Velpeau. It indicates the form, structure, and connexions of the different parts of the body, the knowledge of which is indispensable to the surgeon, and points out the influence which the anatomical arrangement of these parts exercises on the nature and treatment of the principal surgical diseases. It also enumerates the operations which the surgeon is called upon to perform in the different parts of the body, without entering minutely into the merits of the various plans which surgeons have recommended for their performance.

—

GREGORY'S PRACTICE, (new edition.)—TOWAR & HOGAN, No. 255 Market steet, Philadelphia, have just published a new and highly improved edition of a Treatise on the Theory and practice of Physic, by George Gregory, M. D. with notes and additions adapted to the practice of the United States, by Nathaniel Potter, M. D. Professor of the Practice of Physic in the University of Maryland, and S. Calhoun, M. D. of Philadelphia. In two volumes, octavo.

Printed from an improved edition, issued the past summer in London, by Dr. Gregory, with the addition of much other new valuable matter, which will probably render it the best book extant, not only as a manual for the use of students, but for the use generally of practitioners.

We published a notice of the first edition of this valuable work in our number for July, 1827. A second having been called for in so short a time is sufficient evidence of its value. We congratulate the American editors upon their success.—EDS.

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ELEMENTS OF CHEMISTRY.

RICHARDSON & LORD have recently published ELEMENTS OF CHEMISTY, for the use of Schools and Academies, comprising the principal part of a Manual of Chemistry, for the use of pupils of Mechanics' Institutions: By Andrew Fyfe, M. D. F. R. S. E. Lecturer on Chemistry to the Edinburgh School of Arts. With additions and alterations, by John W. Webster, M. D. Erving Professor of Chemistry in Harvard University.

—

CHEMICAL MANIPULATION.

J. W. WEBSTER is preparing for publication in this country, an improved edition of FARADAY'S CHEMICAL MANIPULATION; being instructions to Students in Chemistry, on the methods of preparing experiments of demonstration, or of research, with accuracy and success.

"After a vary careful perusal of the work, we strenuously recommend it, as containing the most complete and excellent instructions for conducting chemical experiments. There are few persons, however great their experience, who may not gain information in many important particulars, and for ourselves, we beg, most unequivocally to acknowledge that we have acquired many useful and important hints, on subjects even of every day occurrence."—Philos. Mag. and Ann. of Phil. by Taylor and Phillips.

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TO THE SUBSCRIBERS TO THE AMERICAN MEDICAL RECORDER.

GENTLEMEN,

The American Medical Recorder having been transferred to Messrs. CAREY, LEA & CAREY, and united with the American Journal of the Medical Sciences, *the present* and future years' subscription must be paid to them or their order.

By the arrangements which have been entered into, subscribers will have important advantages, from the great accession of talented medical writers; the publishers will also be enabled to give a considerable increase of pages and engravings in each number, and that they will do so, I am fully authorized to state. Under these circumstances, I trust subscribers will continue their support to the American Journal of the Medical Sciences.

I am, Gentlemen,

Yours, most respectfully,

JAMES WEBSTER.

Philadelphia, April 1st, 1829.

N. B. Subscribers in arrears for the American Medical Recorder, ending 1828, will please refer to the advertisement in the last number, (45,) and make payment without delay, in the manner there pointed out. J. W.

*** The months of publication being changed, the subscribers will receive the next number on the first of May, and the last of the current year of the Journal on the first of August. In future the time of publication will be the first of November, February, May, and August.

ADVERTISEMENT.

The Editors of the American Medical Recorder, present their respects to their numerous patrons, and return thanks for their liberal support. On first undertaking the editorial department of the Recorder, we pledged ourselves "to use all possible means to promote the interests of medical science." Keeping steadily in view this grand object, we have united our Journal with the American Journal of the Medical Sciences. A combination of the talent and enterprise enlisted in support of both Journals being thus effected, cannot fail to be highly gratifying to our subscribers, and will, no doubt, be of great advantage to the medical profession of our country.

As we shall still remain deeply interested in the success of the work, we trust our patrons, subscribers, and contributors, will continue to extend their support to the American Journal of the Medical Sciences.

JAMES WEBSTER, M. D.
CALEB B. MATTHEWS, M. D.

Philadelphia, April 1*st*, 1829.

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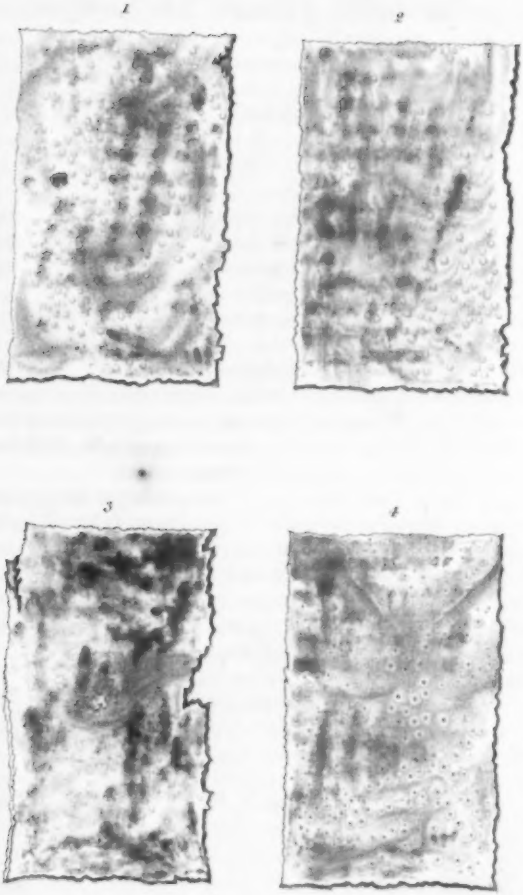

Drawn from Nature. E Engraved by J.Brayton.

ORIGINAL COMMUNICATIONS.

ESSAYS.

ART. I. *An Inquiry into the Anatomical Characters of Infantile Follicular Inflammation of the Gastro-intestinal Mucous Membrane; and into its probable identity with Cholera Infantum.* By WILLIAM E. HORNER, M. D. Adjunct Professor of Anatomy in the University of Pennsylvania. [With a Plate.]

IT is much to be regretted that a disease so entirely American as cholera infantum, and which, from its annual recurrence and extensive prevalence, presents its facts so continually to the physicians of this country, should as yet stand in need of many expositions, to fix it upon a sure and perfect pathological foundation.

In the city of Philadelphia alone, the number of deaths under two years of age from cholera infantum, is on an average two hundred annually; on some occasions it has amounted to two hundred and thirty, and is seldom less than one hundred and seventy. Its ravages are witnessed along a space of three thousand miles, from Quebec to New Orleans, and as a general rule may be considered to increase proportionably to the approximation to the equator. I have no doubt that a bill of mortality for the United States alone, on this single disease, would exhibit thousands of victims to it annually. It is then a remarkable fact, that, from such an immense store of information, there is not one dissection a year reported to the medical public. Indeed, so completely have the pathological characters of the disease been neglected, that in hastily looking over several of the most popular American journals for the last twenty years, I have found but one dissection reported in detail.*

I have no doubt that many dissections have been performed in the mean time, indeed, they are alluded to in a general way; and

* See Coxe's Medical Museum, Vol. 3, page 94, Philadelphia, 1807, case of Cholera Infantum, &c. by James Stewart, M. D.

possibly there may be much valuable information suppressed by the reserve of its owners; but if either, or both of these cases exist, they have remained in an obscurity scarcely exceeding the precincts of a port folio, or the limited circulation of a medical coterie.

The indications of the existence of this affection, are so familiar to parents and physicians, and have been so well described by the eminent medical writers and practitioners of the United States,* that it will not be necessary to enter into a detail of symptoms, with a view of illustrating the disease which is the subject of this inquiry. It may be stated in a summary way, that the affection prevails in the summer among children of two years and under, and that the morbid phenomena resolve themselves into a strongly marked change of the alvine evacuations, which cease to be natural and well-elaborated fæces, but consist in articles of aliment discharged in very much the same state in which they were swallowed;—in the mucus of the bowels in unusual quantities, frequently tinged in places green by bile, and holding if the child have been fed on milk, (or small masses of food,) the pieces of curd or food in clusters, in the mode of their connexion resembling the spawn of frogs;—in serum in large quantities, coming either from the exhalents of the intestines, or from the muciparous glands, and augmented perhaps by the watery drinks of the patient;—and in bloody stools, which are also spoken of by writers, but are comparatively infrequent.

Dr. Jackson† has expressed, in a very summary and striking way, as a leading indication, that the natural stools are retained, and such as are passed are derived principally from the chylopoietic viscera themselves; and that the proper fæcal smell is wanting in cholera infantum as in dysentery, being sour or putrid, or like water in which putrid meat has been washed. He also says, that some *red* portions are discharged as in true dysentery. I regret that he has here applied the name of a colour in such a way as to leave us in doubt of the substance to which it refers.

* See Medical Inquiries and Observations by Benjamin Rush, M. D. Professor &c. in the University of Pennsylvania, Vol. 2, p. 361. James Jackson, M. D. Professor of Theory and Practice of Physic in Harvard University; Remarks on the Morbid Effects of Dentition: see New England Journal of Medicine and Surgery, Vol. 1. A Treatise on the Medical and Physical Treatment of Children, by William P. Dewees, M. D. Adjunct Professor in the University of Pennsylvania, Philada. 1826. Nathaniel Chapman, M. D. Professor in the University of Pennsylvania, Manuscript Lectures. The Medical works of Edward Miller, M. D. Professor, New York, 1814.

† Loc. cit.

Other morbid phenomena are found in the frequency of those alvine discharges, which occur from three to twenty times in the course of twenty-four hours; in the want of appetite, irritability of the stomach, and vomiting; in extreme thirst; in an uneasiness, ever tempting to a change of posture; in fretfulness and quick perceptions; in frequent pulse; in fever of a remittent form disposed to evening exacerbations; in extreme emaciation and languor as the disease advances; and in delirium, coma, or hydrocephalus, in its last stages. This affection, when it leads to a fatal termination, runs its course generally in from a fortnight to six weeks. Dr. Rush* reports a case where death ensued in twenty-four hours. The restorations to health may in like way be accomplished at any time of the disease, and there are few or no symptoms so aggravated but children have recovered from them. Among those of the most fatal kind, are stools with a pink-coloured margin,† live worms crawling from the throat, and small transparent vesicles on the chest.‡

The practitioners of the United States are as generally agreed on the anatomical characters of this affection after death, as they are on the symptoms indicating it. In common cases the brain presents no other pathological state than that of congestion of red blood; occasionally, however, the disease becomes complicated with hydrocephalus, (chronic inflammation of the arachnoidea.) The viscera of the thorax are in a sound state. In the abdomen the liver is generally enlarged, sometimes very much so, thereby occupying two-thirds of the cavity of the abdomen. It is also more firm and solid than natural, but the derangement of structure, if any exist, cannot be seen or appreciated. The gall-bladder is sometimes found distended either with bile or colourless mucus, on other occasions it is flaccid with the same kind of contents. The structure of the spleen and pancreas, continues natural.

It is evidently in the mucous coat of the alimentary canal that the true anatomical characters are found, the peritoneum being generally entirely sound. In the stomach and small intestines, especially the duodenum, red, inflamed patches, inclining to a purple, have been observed. In the large intestines, according to Dr. Jackson and Dr. Dewees, it is rare to discover marks of disease; in this, however, I do not agree with them. The contents of the intestines are feculent matter in hard lumps, involved in a hard adhesive mucus, and coloured either yellow or green by the bile. These feculent substances are sometimes in considerable quantity, but it is uncommon to find

* Loc. cit. † Chapman, loc. cit. ‡ Dewees, loc. cit.

undigested matter; because the patient, in the latter stage of life, refuses all nourishment which is not in a liquid form. Dr. Dewees states that coagulable lymph is in some instances spread on the surface of the small intestines, or found in detached pieces, and in many parts their coats are thickened, so as to reduce considerably their calibre.

In some rare cases the intestines are filled with flatus, and distended much by it; in the majority of instances, however, the intestines are contracted, which is manifested during life by the collapse and diminution of the abdomen, and the wrinkling of its parietes.

Without entering into a further detail of the received anatomical characters of cholera infantum, it may then be stated that they are considered to consist in an inflammation of the mucous coat of the stomach and small intestines, rarely if ever followed by ulcerations,* and that rare as ulceration is, it is more frequent in the large than in the small intestines.

From the foregoing exposition of symptoms and of pathological changes, it is evident that the authorities who treat of this disease fix it in the mucous coat of the alimentary canal, and so far as my experience goes they have been entirely correct and happy in giving this location to it. I have, however, some reason to believe, as the subsequent cases will tend to show, that this affection is rather a follicular than an erythemoid inflammation, that it is rather a disease of the innumerable mucous glands or follicles extended from one end to the other of the alimentary canal, than a common vascular or erythemoid inflammation. With the view of presenting the grounds upon which this suggestion rests, the attention of the reader is called to the following dissections with the plates illustrating them.

Case I.—*Follicular Inflammation of Intestinal Canal, the symptoms being those of Cholera Infantum.*

June 30th, 1828. *Autopsy eighteen hours after death.*—Present Drs. Dewees and Edward Jenner Coxe, attending physicians.

The infant daughter of Mr. F. aged about twenty months, has had for the last three weeks the usual symptoms of cholera infantum, manifested by eight or ten green-coloured discharges with mucus, in the twenty-four hours, but there has been no sickness of stomach. The complaint was attended with whooping-cough, but no other complication which was apparent. During the progress of her malady she

* New England Journal, ut supra, p. 118, Vol. I.

did not seem to be very ill, but last evening she died very unexpectedly to her family and physicians.

Autopsy.—Abdomen: peritoneal surface of viscera healthy: liver of a light yellow colour: gall-bladder distended with bile: spleen healthy.

Mucous membrane as follows: that of the stomach of a sienna colour, and of a consistence which permitted it to be scraped off very readily with the finger nail. On the smll intestines it was generally of the same colour, but interspersed at distant intervals with patches of injected blood-vessels, but no extravasation. The clusters of muciparous glands or follicles were very distinct to the naked eye, and had their orifices also enlarged and tumid. The same condition of the muciparous follicles prevailed in the large intestines from one end to the other; but they were larger and more tumid, and gave to the mucous coat somewhat the appearance of having been sparingly sprinkled with fine white sand. In both small and large intestines the mucus seemed less consistent than usual.

The upper part of the small intestines contained yellow bile, almost pure, excepting some mixture of mucus. In the large intestines, the contents were also bilious, but greenish, like the discharges which had prevailed. There was a small blue spot on the large intestine, the colour somewhat like chronic inflammation.

The weather being sultry and oppressive, we did not extend the examination further. I carried, however, the whole of the large and a portion of the small intestine away, macerated it so as to remove the blood, and then suspended it in spirits of wine. This process has made the anatomical characters of the follicular affection much more distinct, by removing the tinge and mucus; and by floating the affected tissue, its folds and processes are kept extended and separated, and thereby give more prominence to the glands or follicles. Thousands of them, the ulceration of which was previously imperceptible, are now seen very clearly to be in that state. See Vol. I. Plate I. fig. 4th,* for colour. The maceration and suspension in a fluid, has moreover brought into view several common erythemoid ulcerations on the jejunum, about two lines in diameter, and which escaped my observation entirely during the dissection. They are so different in size and appearance from the ulceration and tumefaction of the follicular system of the intestine, that they could not be mistaken for them, and the contrast in the drawing must be very evident. See Plate III. fig. 3d.

An observation worthy of consideration in this case, is, that yellow

* American Journal of the Medical Sciences.

bile was in the jejunum, but green in the colon. The inquiry resulting from it, is what produced this change of colour? We know, that frequently in cholera, the alvine discharges are in a state of fermentation, and are sour; is this process confined to the colon; if so, the rationale is, that the bile retains its natural charater in the small intestines, but becomes green in the large, from meeting there with acescent matters made so by fermentation. See Plate III. fig. 4, for a representation of a section of the colon, and fig. 3. for a portion of jejunum. The preparations are in the Anatomical Museum, Colon, A. 102–8; Jejunum, A. 102–9.

Case II.—*Follicular Inflammation of Intestinal Canal, the Symptoms being those of Cholera Infantum.*

September 2d, 1828. *Autopsy, within twenty-four hours after death.*—A coloured female child, aged eighteen weeks, has been ill at least a fortnight, and probably more, from cholera infantum; the date, however, could not be ascertained precisely from the mother, owing to her imperfect intelligence and ill health. The child, during its illness, had convulsions, which is by no means an uncommon symptom in the last stages of cholera. Within a few days she has taken refuge in the infirmary of the Alms-house, bringing with her the infant alluded to; and a twin of the same age, having an affection of the same kind and date. The subject of the present observation died last evening, and this afternoon I made the examination, in presence of the resident students of the house: thermometer 77°. The attending physician, to whose care the infant had been confided, Dr. John K. Mitchell, was absent.

Autopsy.—Exterior aspect: no perceptible putrefaction; considerable emaciation.

Abdomen.—Stomach empty, contracted; mucous coat, of a light sienna colour, almost white, and destitute of blood-vessels, excepting a very few; the rugæ well marked, laid for the most part in longitudinal rows and so elevated that they were in contact. The mucous coat was also so soft that it could be scraped away easily, in the form of a pulp, with the finger nail.

The small intestines likewise of a light sienna colour on their mucous coat, and empty, excepting a little mucus, which was here and there greenish. The large intestines presented the same colour as the small, and were destitute of fæces; in place of the latter, the two inferior thirds of the colon were occupied, so as to form a slight distention, with pure pus of a cream colour, proper consistence, as well elaborated as I ever saw, and destitute of any excepting a very faint odour. The muciparous glands of the colon were

all enlarged, so as to represent small grains of white sand sprinkled over the mucous membrane, and about the size of millet seed; there was in each a little depression of a darker colour than the rest of the gland, and, from its position at the apex, was taken for the orifice of the gland. The muciparous glands of the small intestines were also tumid and irritated, but could not be so well distinguished at the time of examination as they were subsequently, by maceration. In a few of these follicles, ulceration had began to show itself, in both intestines, small and great, but only to an inconsiderable extent. Maceration in this case also being resorted to, both the tumefaction of the glands and their ulcerations were made more distinct by it, for the reasons stated.

The liver was healthy, but its colour was lighter than usual, and somewhat variegated by a yellowish ground, being interspersed with its natural brown. The gall-bladder was distended with inspissated green bile.

The other viscera of the abdomen were healthy, as well as the peritoneal coat. The thorax and head were not examined by myself. The preparation of the colon is deposited in the Anatomical Museum, A. 102–10. See Plate III. fig. 2d.

After what has been stated in these two cases, on the consistence of the mucous coat of the stomach, it becomes a very interesting object of inquiry, whether this was a normal or a morbid state of its texture. I am as yet deficient in those facts from personal observation, which would enable me to assign some standard of consistence to the mucous coat of the stomach under two years of age. I have, however, no doubt that it is much softer at that period of life than it is in the adult, and the probability is that from being so soft as to be readily scraped off with the finger nail in the early months of existence, it then increases successively and gradually in its consistence as one advances into old age, and until it becomes a membrane of sufficient tenacity to permit very readily its being dissected up as such with a scalpel. This subject is, however, quite open to inquirers, especially in this country, and sound conclusions upon it made by multiplied observations, would confer a great benefit upon the profession.

Case III.—*Follicular Inflammation of Intestines with Cholera Infantum.*

September 7th, 1828.—The twin child alluded to in the preceding case, after having languished under the same disease with similar symptoms, died, and was examined to-day.

The mucous coat of the stomach was in a natural state. The duodenum contained healthy bile, and the other small intestines abounded in fæcal matter, of a light yellow colour. There was also fæcal matter in the cœcum, of a light yellow, and chopped appearance, but none in any other portion of the large intestines.

The muciparous glands of the cœcum were very obviously enlarged, as also those of the sigmoid flexure of the colon, and of the rectum. A mucous inflammation was seen on the lower portion of the ileum, and there was a considerable injection of the rectum, apparently of an inflammatory kind.

The appearance of the liver was healthy.

The facts of the last case were communicated to me by Dr. Ashmead, of the Alms-house Infirmary, who has now for some years distinguished himself there by a devoted attention to its scientific and charitable objects, and by a ready co-operation in the inquiries of the prescribing physicians and surgeons.

Case IV.—"Maria Boulefray, aged ten months, head large, considerable embonpoint, pale complexion, skin soft and flaccid, died February 5th, 1824, after an illness of six days; during which she was somewhat comatose, had no fever, no pain, very frequent vomiting, incessant alvine discharges; rejected pap, (bouillie,) and the breast of her mother. The stools were first yellow; they then became white, frothy, inodorous, of a glairy consistence, slightly ropy, and without tenacity. The body was opened ten hours after death.

Head.—Serosity effused in the cranium; cerebral convolutions almost effaced; substance of the brain infirm; arachnoid membrane injected; middle and lateral ventricles distended by a considerable quantity of serosity.

The larynx and chest in a sound state.

Abdomen not distended; peritoneum dry, and without effusion into its cavity. Exteriorly the intestinal convolutions were white, and only a few small blood-vessels, not much divided, were seen to creep under the serous coat.

The stomach being empty, was in a middle state, between dilatation and contraction. The mucous membrane was of a natural thickness, sufficiently adherent to the subjacent membrane, of a milky-whiteness, and was moistened by a proper quantity of clear, ropy, mucus. The villosities were very distinct on the great curvature, and scarcely perceptible elsewhere; the cardia and the pylorus had nothing remarkable, *but all the extent of the mucous surface was covered with a prodigious number of white granulations, the size of*

a millet seed, indiscriminately scattered over the gastric surface, which presented no marks of inflammation.

The antrum pylori, (espace pylori-valvulaire,) was sound, and covered *with small glands*, like the stomach. A similar follicular development had occurred in the duodenum; the valvulæ conniventes did not yet overlap, as in the adult; there were glands on the summits of these valves, as well as in their intervals. From the beginning of the jejunum to the middle of the ileum, the internal membrane retaining a white satin colour, sufficiently villous, and of an ordinary thickness, was covered with *granulations of an appearance and size similar to those of the duodenum.* From the inferior third of the ileum to the valve of Bauhin, there was a white, frothy fluid, tinged yellow, without a particular odour, having almost the liquidity of water, and filling the entire cavity of the intestinal tube. Besides the granulations generally scattered upon this part of the intestine, there were groups of follicles united in small masses, and in elliptical plates, which all occupied the curvature of the intestine. They were bordered by a winding, colourless line; their surface was rough, and surmounted by glands, similar to those which existed alone in the environs of the plates; mucous folds extended from one gland to another. The plates generally were four lines wide, and half an inch long. In the ileo-cœcal region they were very near one another. The different glands which existed alone on the mucous surface, offered for the most part at their summit, a grayish point, indicating their excretory orifice.

In the whole length of the large intestine, down to the rectum, and even the anus, *these glands were found in abundance.* The colon contained frothy, yellow matter, similar to that of the small intestines.

The mouth, the pharynx, and the œsophagus presented a similar development of follicles.

The intestinal mucous membrane was detached with difficulty; but at the end of eight days of maceration in water, a large shred could be peeled off. The plates and the granulations came off with it, being as it were, incrusted in it."

Mr. Billard,* from whom this observation is translated, continues his remarks in stating that we may conclude that there was here an unnatural development of the muciparous glands, from their being much more numerous than they are in the healthy state. It may also be remarked that the membrane was not inflamed, that the intestinal tube contained a prodigious quantity of liquid matters almost aque-

* De la Membrane Muqueuse Gastro-intestinale, p. 422, Paris, 1825.

ous, and which seemed to constitute what is called the mucous flux; and that in fine, the young patient, though dead in a short time, had not presented very evident febrile symptoms.

It is evident to the American reader, that this case of Mr. Billard's, had it occurred in this country, would have been named, and is, in fact, the cholera infantum. The paucity of his observations prevented him from recognising in it the anatomical characters of the disease; for he says the follicles probably are not developed by inflammation, for the membrane upon the surface of which they manifest themselves, offers none of the characters of inflammation laid down in a former part of his work. The difficulty with Mr. B. however, comes from his not making a sufficient allowance for the difference between the erythemoid or common vascular inflammation, and the follicular irritation of the intestinal tube. In the three observations by myself, the indications of erythemoid inflammation are seen to be either absent or defective.

Strange as the assertion or rather suggestion may appear, I am inclined to the opinion, that if this follicular inflammation be the primary or essential affection in cholera infantum, cases may, and indeed do occur, where the diarrhœa is wanting; and where perhaps the most striking symptom is convulsions, no doubt arising from the sympathetic irritation of the brain. The following case, at least, where the anatomical characters after death were the same as in the cholera infantum, will go to show how far this notion is supported by facts.

CASE V.—*Follicular Inflammation of the Colon with Convulsions.*

Examination about twenty-four hours after death.—Present Dr. HAYS, attending physician, and Mr. THEODORE DEWEES, student of medicine.

Miss P. aged two years, for about three weeks had been disposed to constipation, requiring the use of cathartics frequently. She was attended by Dr. Dewees, who informs us that her stools had been white with an absence of bile. Eight hours before her death she was suddenly seized with convulsions which lasted to the end of life.

Autopsy, Jan. 9th, 1828.—Exterior aspect, nothing unusual.

Head.—Brain and membranes natural.

Thorax.—Lungs natural; half an ounce of straw-coloured, transparent serum in the right pleura.

Abdomen.—Peritoneum healthy; liver hard and of a yellowish hue; stomach of usual thickness; its mucous membrane could be scraped off with the finger nail, and was of a pearl or sienna colour, interspersed every few lines with small specks of blood of a light pink

colour, and not larger than the head of a very small pin; the mucous membrane was also smeared all over with a coat of tenacious mucus, and at the left end of the stomach was of a light gamboge colour, which I attributed to bile dying it.

The intestines were distended with flatus and of a light pearl colour. Nothing pathological could be detected in the small ones, but in the large, all the muciparous follicles from one end to the other seemed to be affected. These follicles were converted into small cysts of the transparency and size of the itch vesicles, and on being punctured with a needle and pressed, readily gave out their transparent fluid. Their orifices could be seen very readily with the assistance of a lens, and appeared to be closed generally, but some were open and slightly ulcerated; neither could a distinction of colour be observed between these orifices and the remainder of the gland. See Plate III. fig. 1, (Anat. Museum, A. 102–7.)

I have now adduced a sufficiency of evidence to excite an inquiry, and perhaps to lead to the conclusion, that cholera infantum is pathologically a follicular inflammation of the intestinal tube, attended with increased peristaltic motion in most cases, but not in all; and in its extreme stages, existing in various sympathies of the different organs of the body. In its anatomical characters at least, it has a very strong resemblance with the vesicular diseases of the skin, and in its extreme stages it seems to progress from the interior to the exterior of the body, showing itself in the mouth by inflammation of the mucous follicles there, (aphthæ,) and on the skin by an irritation of its follicular system, the appearance of which has been compared by Dr. Dewees to the vesicles which would be produced by an immense number of minute drops of scalding water.*

The disease seldom becomes fatal until the sympathies with other organs are well established, and the indications of their irritation be strongly marked by disordered circulation, incessant vomiting, coma and convulsions, all of which show the lesion of the organs presiding over the great functions of circulation, digestion, sensitiveness, and myotility. It is under the advanced stages of the cholera that the meningeal inflammation of the brain, (hydrocephalus,) is evolved; the sympathetic affection being converted from one of mere irritation of the arachnoidea, into a pathological change of structure followed by effusion.

Follicular inflammation of the intestines sometimes appears in the eleventh year; the following case will prove it.

* Op. Cit. p. 398.

CASE VI.—*Follicular Intestinal Inflammation.*

May 17th, 1824.—"Louis Joui, aged eleven years, of an infirm constitution, but having a certain degree of embonpoint, being thrown from his horse, his skull was fractured, and he died the next day, in the hospital. It could not be ascertained whether he was labouring under a diarrhœa at the time, or not.

Autopsy, eighteen hours after death.—The fracture of the skull was found extended to the base, and there was much effusion. The lungs were sound, with some ancient adhesions to the thorax.

Abdomen.—Peritoneum sound, the intestines thin and transparent. The mucous membrane of the stomach was of a rose-colour, wrinkled, and covered with a thick layer of mucosity. By scraping it, a number of red points became visible, and it contained some bread and the skins of stewed apples.

The antrum pylori was long, yellowish, and marked with a great number of small, grayish spots. The mucous villosities were well marked there; the duodenum, and the remainder of the small intestinal tube, was the seat, in places, of a very fine ramiform injection. In the inferior third of the ileum, was a cluster of twelve lumbrici worms. The large intestine was healthy, and contained a great quantity of fluid matter, which was yellow, frothy, and moderately odorous; at the end of the colon, the fæces had a consistence sufficiently firm.

In the whole extent of the intestinal mucous membrane, was a great number of muciparous glands. They were extremely numerous on the duodenum, and occupied both the valves and their intervals. They all had the size of the head of a pin, and exhibited very visibly their excretory orifice. In the jejunum they were more rare, but they reappeared in great numbers on the ileum, and united themselves in little masses, and by plates. The cœcum was covered with those glands; at the end of the transverse colon they become more rare, and none existed in the sigmoid flexure, nor in the rectum."*

Mr. Billard goes on to remark that the state of this intestinal tube is entirely analogous to most of those opened by Rœderer and Wagler.†

There was evidently here an abundant mucous flux, a remarkable whiteness of the mucous membrane, and a marked development of the muciparous glands. Nevertheless, this infant did not die from

* Billard, ex. op. cit. p. 420.

† De Morb. Mucos. Paris, 1810. I regret not having been able to obtain this book in the United States. It alludes to an epidemic which prevailed in Gœttingen, the violence of which seems to have exploded on the intestinal canal, according to the allusions which I have seen concerning it.

the affection; it appears even that he was not incommoded by it during life, so far as to require repose and care, inasmuch as he received while working, the wound which caused his death in so short a time.

There are certain diseases considered as contagious, one of the remarkable peculiarities of which is, that when once individuals have gone through them, the charm is dissolved, and they are forever afterwards innoxious. Another circumstance worthy of remark is, that these diseases have their primary seat in the follicular system, as for example the small-pox and the chicken-pox. They appear occasionally under such doubtful causes, that the opinion may be reasonably entertained of their spontaneous production, in the localities where they appear from time to time. Have we not then mistaken too frequently this peculiarity of disposition in the organism to fall into certain morbid conditions, for distant sources of contagion; for a power in disease as an essential existence to propagate itself, like plants or animals, by its seeds, as they are ridiculously called? May not cholera infantum, as a follicular disease of the intestines, be the inevitable lot of every individual of the human family, but under circumstances of various severity, being mild, scarcely perceptible in some, and in others being aggravated by the season of the year, by the local circumstances of the individual, and by his early infancy? May not, in fact, the whole follicular system of the body be successively under the necessity, in most individuals, of undergoing inflammation, the symptoms of which will of course vary, according to the functions of the part in which the follicles are placed, and give rise apparently to diseases having no external analogies? As for example, in the inherent follicular inflammations of the skin, we have what is called small-pox, from its vesicular or bladder-like appearance;—in the inherent inflammations of the follicles of the intestines, we have what is called a cholera or flux of children, because the bowels are continually expelling their contents, being too irritable in most cases to retain them; and is it not perfectly consistent with the laws of induction, that when a similar innate inflammation attacks the follicles of the trachea and lungs, we shall of course have symptoms suited to the organs assailed? In fact, what is whooping-cough but an ingenerate inflammation of the mucous follicles of the air passages, manifested by the immense transparent mucous discharges, which are brought up by the tea-cupful after a fit of spasmodic coughing? May not then the theory of contagion rest upon the explanatory fact, that till the ingenerate diseases of the follicular system have been gone through, the individual is liable to have them excited by such individuals as are labouring under a similar affection?

ART. II. *Observations on the Effects of Heat.* By SAMUEL HENRY DICKSON, M. D. Professor of the Institutes and Practice of Medicine in the Medical College of South Carolina.

THE effects of heat upon the human constitution have formed the subject of many an ingenious essay. It would seem that very intense degrees of it may be borne for a short period with entire impunity at the time, and so far as has been traced without any after consequences of importance. Besides the experiments of BLAGDEN, TILLET, &c. &c. which are in the hands of every body, the Journals of the day are teeming with the exploits of a M. MARTINEZ,* who seems to be gifted with powers of endurance similar, if not equal, to those of the fabled salamander. But although these transient exposures have been undergone in the instances alluded to with so little inconvenience, it is, nevertheless, perfectly well known that the long-continued application of high degrees of temperature, will not fail to derange every function of the human system, and will ultimately effect its destruction. These evils may be brought about in various ways, according to the circumstances under which the heat is applied, the concurring agents which may, at the same time, affect the constitution, and the predispositions and idiosyncrasies of the individual subjected to their influence.

The morbid effects of heat have been divided into the direct and indirect. I shall confine myself at present to the former, proposing to offer a few brief practical remarks. Concerning the latter, we have some ingenious and useful observations from the pen of Dr. JAMES JOHNSON, who seems to have watched the diseases of hot climates with a most careful and accurate eye, to have delineated their progress with a faithful and ready pen, and to have reflected upon their causes, history, and effects, with a philosophical and generally correct judgment. On the approach of spring, in our climate, when the thermometer, (Fahrenheit's,) steadily shows a temperature of atmosphere in cool, shady, and sheltered places about 76°, the heat of the exposed streets, subject as they are, to both radiated and reflected heat, may be safely assumed to rise above 90°, ranging, perhaps, as high as 100° or 110°.

The earlier influences of this season would seem to be mildly stimulating, urging to a quicker and freer play of the several functions, and a more perfect development of animal as well as vegetable life.

* See London Medical Gazette, for July 12th, 1828.

The skin becomes soft and relaxed; the heart beats with rather greater force, and fills the extreme vessels with a fuller tide. The fluids of the body are not exempt from the ordinary law of expansion by increment of temperature, and soon come to occupy a larger space. Hence, if the relaxation of the vascular system does not keep pace with this expansion, then is built up a tendency to various hæmorrhages from rupture by over-distention. Epistaxis is now common, and the menstrual secretion is apt to be poured out in a quantity rather greater than during the past winter. If hæmorrhagy does not take place, a train of other consequences arise, which deserve our special notice. Of these, the principal is head-ache, attended with violent pulsation of the carotids, and productive of great distress. The determination to the brain, and the pressure made upon every part of this organ, will occasion restlessness, alternating with heavy drowsiness; a remarkable and oppressive languor; an indisposition to an incapacity for muscular exertion; almost complete anorexia, with frequent nausea—(all dyspeptics suffer at this season more than at any other.) Constipation follows, and a disposition is formed to visceral obstructions of varied character, destined to be more perfectly developed by the poisonous influence of the malaria of the coming autumn. To obviate these unpleasant symptoms, the lancet is a common resort with many, while others prefer the employment of certain cathartics, hence referred to under the general phrase of spring physic. Either of these means, as experience has fully proved, is capable of giving a notable share of relief, but it would not seem to me a matter of entire indifference, whether we make choice of the one or the other, and I will endeavour to give reason for my preference of the cathartic here.

The lancet seems directly indicated under these circumstances by the immediate relief afforded to head-ache, &c. by the bleedings from the nose, so common at this period. Every physician is familiar with the remark that hæmorrhage from any set of vessels, leaves behind it when it ceases or is checked, the tendency to its own recurrence, a tendency so strong, as in some instances, to become a matter of absolute necessity, and to constitute a portion of the habits of the constitution. All hæmorrhages, when they proceed to any considerable amount, are apt to occasion morbid determination to the head. This fact, which has been demonstrated by repeated experiment, may easily be proved. The most violent epileptic convulsions often follow, as I have myself seen the recovery from a state of syncope in persons not epileptic, who have been bled to fainting. And how can it be otherwise? The blood within the triangular sinuses of the brain,

or rather its membranes, upon whatever principles the ordinary and general venous circulation may be explained to go on, must be admitted to be dependent for its onward motion, on account of the impossibility of any degree of contraction of these vessels, either upon the vis a tergo, communicated to the column of arterial blood by the systole of the left ventricle, or as I rather believe, upon the suction exerted on the venous columns by the diastole or expansion of the right side of the heart. In either case, the effect will be precisely the same. The heart ceasing to beat, or beating feebly, the venous column of blood is checked in its downward flow, or flows slowly and languidly, while the cerebral arteries empty themselves into these vessels by their elasticity and tonicity, qualities not readily affected by the state of the system alluded to. The result must evidently be an accumulation of blood in the veins and sinuses, a dangerous distention of these vessels, and an undue pressure exerted upon the surface, and within the substance of the brain. Now it seems to me a reasonable doubt whether this condition, although it may often be recovered from, and to all appearances perfectly, can be renewed and repeated from time to time, and we know that the artificial will become a matter of as necessary habit as the natural hæmorrhage, without the most serious injury to the parts concerned. Will not the vessels become more and more liable to rupture from this repeated distention? Will the brain continue capable of returning at once, and readily, to the performance of its most important and most delicate functions, after repeated interruptions of this nature? I should believe that there could be no difference of opinion as to the proper answer to these inquiries. The cathartic is free from all such objections, and exhibits also another collateral advantage, which must not be overlooked. The red globules of the blood seem to contain much of the stimulant quality which this fluid is known to possess. It is also perfectly well understood that when lost, they are replaced very slowly; their source is unknown, but wherever manufactured, the supply is only adequate to the ordinary demands of the system, and by no means keeps pace with any unlooked-for draught. Pale and serous blood does not excite the organs of circulation to the proper degree, nor does it rouse sufficiently the peculiar organic sensibility of the several glands and secreting vessels. The functions of the system are hence all performed languidly; even the muscles lose their contractile power, and their firmness becoming soft, as in blanched veal, and locomotion is difficult and fatiguing. The cathartic procures a separation from the blood of the fluid parts, less indispensable, and more easily reproduced; and by the quantity of secretions which it occa-

sions to be poured out by the exhalents of the intestinal surface, empties the vessels no less effectually, leaving behind the pabulum vitæ, the fibrine, and cruor; besides that, in one of these cases, the determination *created* by the remedy, is to the head, and in the other, to a less delicate part, the intestinal canal. It is evident too, that we shall gain much by a judicious selection of the cathartic proper to be employed, taking into due consideration the indications presented. If there be a necessity for prompt evacuation, the neutral salts are ready and active, or a combination of some one of them with a resinous purgative, (as rhubarb,) may perhaps prove still more effectual. Complete and permanent relief is however best gained by a persevering use of aloetics, rather than of any others of the class, perhaps by the irritation which they occasion in the lower intestines, and the consequent determination of blood to the hæmorrhoidal vessels, the distention of which seems to be in itself, though painful perhaps, and full of inconvenience, yet productive of no consequences ultimately injurious to the constitution, and appears to relieve notably the cerebral vessels.

But there are, I think, measures by which a prevention of these evil effects of heat may be attained, and a resort to medicine rendered unnecessary. With this view I would advise a considerable reduction of the ordinary winter diet as soon as the weather becomes warm. Vegetable aliment should be almost exclusively taken, as being abundantly nutritious, yet comparatively free from stimulant power. It is a common error to throw off the winter clothing too early and to make too absolute a change in the dress. This should be carefully avoided, as rapid and impressive alterations of temperature frequently occur in spring; if then the skin becomes constricted, and the increased amount of perspiratory exudation is suddenly checked, the blood must be determined injuriously to the internal viscera. A centrifugal tendency is given to the fluids by the circumstances of the season; we should be careful that our habits should not in any manner oppose themselves to this. I am disposed, from attentive observation, also to recommend the use of ice and of iced water, during the heats of spring and early summer. Cold applied thus I look upon as one of the most effectual as well as grateful of our tonics—doing away the feeling of vacuity and oppression at the stomach, so well known to the unhappy dyspeptic, and occasionally felt perhaps by every one—relieving all the other irregular sensations of internal heat and irritation, and proving abundantly diaphoretic. Indeed, I know not a more prompt and certain sudorific, whether

in health or disease, than a draught of water as cold as it can be taken.

I am not unaware of the generally received opinion of the dangers attending the use of such cold water when the body is heated. I have before me at this moment the treatises of Rush and Currie upon the diseases occasioned by drinking cold water in warm weather. I might content myself by referring to the important discrepancies in their statements and their reasonings upon the subject; the first attributing to the strong contrast or shock all the ill effects detailed; the latter, whose reasonings are more full and ingenious, yet still not altogether satisfactory, ascribing them to a debilitating power exerted on bodies already weakened by fatigue and sweating. After due consideration of the facts stated by both, we must come I think, to the conclusion, that some condition or circumstance essential to the production of the evils detailed, has been overlooked or omitted by both; that is to say, that the death in the single case noted by Currie, and in the similar cases quoted by him from other authors, and the deaths and symptoms recorded by Rush, were not occasioned *simply* by the drinking cold water, either when very hot, or while cooling after having been much heated. It is to be observed that I do not doubt or deny the danger of applying cold to the *surface* when in a relaxed state. On this point I fully agree with Currie—but this is foreign to our present discussion. I have never seen a death from drinking cold water, nor have I been able to obtain any authentic account of such an event having occurred since I have been engaged in the practice of medicine in this city. Yet here, if any where, such accidents should occur. Immense quantities of ice and iced fluids are daily consumed here, by persons subjected to the several conditions set down both by Rush and Currie as calculated to favour the morbid influence of the agent in the highest degree.

I cannot infer positively from Rush's statement that he himself saw and prescribed for any of the cases he alludes to. I believe them to have been generally cases of insolation, and that being sensible of rapidly approaching disease, and at the same time feeling thirst and internal heat, the patients were just procuring relief when overtaken by sudden death. I know of no examinations made of such bodies after death, but entertain no doubt that they would be found for the most part, if not always, instances of apoplexy.

In July, 1823, a carpenter, a mulatto, while at work near the top of a house, felt himself giddy and ill. He came down as hastily as he could, grasped at some water, drank it eagerly, and fell down senseless and without motion. The water had been kept in the build-

ing some time, and was of the warmth of the air or very little below it—about 80° of Fahrenheit. This fellow was bled, &c. and recovered, and now lives hemiplegic. Many persons who were speculating about him when I saw him first, and who universally attributed the attack to the water he drank, were much puzzled by its high temperature, the coincidence would have been satisfactory, though entirely deceptive, had it been *cold* well or spring water. Rush tells us that punch, beer, and even toddy, when drunken under the same circumstances as cold water, have all been known to produce the same morbid and fatal effects. This I readily believe, and may further affirm that most of the cases in which there was even the slightest colour of suspicion, attached to the swallowing of cold drinks as the cause of the attack, toddy or punch and not water had been the medium employed. Yet I must not be understood to say that all instances of this nature occur exclusively among the intemperate; they are chiefly of such, yet exceptions are now and then met with.

Few summers pass without exhibiting in our city cases of the kind above alluded to under the title of insolation. Exposure to great heat is of itself undoubtedly capable of stimulating the heart to violent action, and by chemical expansion of the fluids contained within the vessels, as well as by morbid excitement of the vital powers, occasioning the ill effects included among the several forms of apoplexy—the sudden deaths attributed in common phraseology to "stroke of the sun," (coup de soleil)—and when acting in rather less intensity, giving rise to phrenitis, vertigo and severe head-aches, inflammatory fever.

The month of June, 1824, set in pleasantly cool; on the 8th and 9th however, Fahrenheit's thermometer rose to 88° and 89°. After this there was a prevalence for some time of easterly winds, without rain, during which the temperature was as low, (on the 19th,) as 76°. From the 22d of the month the winds were steadily from the south-west and west, and the atmosphere dry and cloudless. The heat regularly increased, the thermometer rising every day to 90° or near it, until the 29th, when it was at 94°; on the 30th it was above 98° at 3 P. M. in my piazza, which was well sheltered from the sun. When hung under a tree in the street and in the shade, it rose to 103°, being protected also, as far as might be, from reflected heat; it rose as high as 130° when exposed directly to the sun and to reflection from the earth. These excessive heats however declined from this time. On the 1st of July it was 94° at 11 A. M. which, contrary to what usually occurs, was the hottest hour of that day. It ranged about 90° until the 7th, when we had a severe storm of rain, wind, and hail.

Our CHALMERS, with his usual good sense remarks, that "by keeping a thermometer in the shade only, we discover no more than the greatest *coolness* in the air, but it in nowise points out that degree of heat which those sustain who are obliged to be much abroad in the day." And it is with these latter, our chief if not exclusive concern must be under these circumstances, in a medical point of view.

The greatest heat which Chalmers noted here was in 1752, during which year the thermometer rose in May to 93°, in June to 92°, in July to 101°, and in August to 96°. Dr. LINING declares the weather to have been warmer in 1738 than he ever knew it in Charleston. In the beginning of August, the thermometer, he says, rose for some days successively to 98° in the shaded air, at or about 2 o'clock in the afternoon; the rest of the summer he tells us was more temperate. On this occasion, we are informed, "several persons died of apoplexies."

It is probable that the summer of 1752 was somewhat more distinguished for its high degrees of heat than even the remarkable one of 1824, as it was undoubtedly for the long continuance of this elevated temperature. Yet certain circumstances must be allowed for, which, when duly considered, will lessen somewhat the apparent disparity. Dr. Chalmers resided, as I am informed, in the alley, which, until its widening a few years since, bore his name. Somewhat crooked, it was not wide enough to allow of free ventilation, yet, under our almost vertical sun was not shaded; of course, with so much reflection of heat, and a stagnation of air, there must have been in this residence a concentration or accumulation of heat above that of the opener streets of the city.

The statement given of the thermometrical observations, for 1824, was taken either in rooms on the ground-floor, well shaded and ventilated, or in my piazza; positions cooler by two or three degrees than any other parts of my house, and cooler, it would appear, than almost any part of the city. We have no register of the thermometer, so far as I am aware, taken out of Charleston, S. C. during the past century. In 1824, we know it to have been as high, at Watterborough, as 105°, and in Columbia, Cheraw, and several other places, as 103° and 104°, in the shaded air. It is singular that this writer, (Chalmers,) though usually minute as well as accurate, does not speak of any particular effects of the heat of 1752, while LINING tells us of several deaths from apoplexy, in 1738, a more temperate season. James Johnson rates the general heat of the East Indian summer, at from 80 to 100°, (Fahr.) The sirocco, it is said, raises the thermometer, on the Italian shores of the Mediterranean, to 112°, for

days together; the effects of this heated air upon the subjects of its influence, are great depression of spirits, and prostration of the digestive powers, "so that persons who venture to eat a hearty supper are often found dead next morning."

During the continuance of the hot weather of 1824, as described above, many sudden deaths occurred in our city, which may be with propriety spoken of under the general head of insolation, coup de soleil. Of this affection there are many degrees of violence and intensity, from slight vertigo, languor, and nausea, to instant death, so immediate as not to allow of any kind of assistance.

I would, however, divide the cases into two classes, which may be clearly and obviously separated from each other. They might be distinguished by the terms apoplectic and phrenitic, or, following the phraseology of Serres, cerebral and meningeal; the first probably depending on or occasioned by venous congestion in the brain, the prominent symptoms being those produced by mere pressure, either vascular or extra-vascular. The latter consisting in arterial determination and fulness. I must state with great regret that it was not permitted me to verify the pathology here given, by an examination of appearances post mortem; but a description of the two sets of cases will, I think, suffice to establish the reasonableness of the distinctions laid down.

The apoplectic form usually occurred in persons somewhat advanced in years, of the make so well known as offering a predisposition to such an attack: corpulent, with short neck, &c. They fell, after exercise and exposure, senseless and motionless. The breathing was stertorous; the pupil of the eye insensible to light; the skin usually as hot, but no hotter, than the natural standard; the pulse full and slow. Unless very speedy assistance was brought, death ensued in an hour or two. If sense and motion were, by the application of proper means, restored, it was observed that one side was more or less affected permanently, and the patient, if he recovered, recovered hemiplegic.

Phrenitic and meningeal insolation was far less fatal than the form which has been described. It occurred in younger people, and was often more clearly the immediate consequence of recent intemperance in the use of ardent spirits. These fell at first without sense or motion, but became after a while very restless, tossing their limbs, and groaning much. The breathing was not always stertorous; the pulse generally quick and hard, the face flushed, the eyes red, the skin pungently hot. If timely aid was procured, a large proportion of them recovered. When aroused from their stupor, they would

be found to be delirious, occasionally in a state of furious mania, attacking those about them, or alarmed and calling loudly for help. They ultimately recovered, if they got well without paralysis. In both forms great paleness of the face, and feebleness of the pulse sometimes occurred, and were signs of the most extreme danger. In both, the eyes were at first insensible to light: I did not notice that the pupil was *regularly* contracted or dilated in either; being in both conditions in each form of the attack.

Little need be said of the treatment instituted. The lancet was of course much employed. In the apoplectic form, the pulse being full and slow, there can be no objection to moderate bleeding; one obvious caution should, however, be attended to. In a state of absolute syncope, or a very near approach to it, the sinuses and veins of the brain must be of necessity overcharged with blood, which cannot enter the cavities of the heart, now quiescent or nearly inactive. If we believe with many physiologists, that the suction-power of the right side gives an onward motion to the blood in the veins, we must perceive that while the cerebral arteries, by their tonicity and elasticity, are pressing forward their contents, the sinuses, which from their form and structure cannot exert any such agency, must be filled and distended, detaining the blood in the smaller veins, which empty into them. If, with others, we believe the venous blood to be driven forward by a vis a tergo, the apparent difficulty and danger are little if at all lessened. Respiration being laboured and slow, the blood does not readily reach the left side of the heart; the partial current which attains that ventricle is sent into the arteries, which pass it onwards, oppressing more and more the nervous system, denied relief by the clogged and full condition of the pulmonary vessels and right side of the heart. The pressure upon the brain then by blood within the veins, must be greatest just when syncope takes place. I have already mentioned the convulsions, quasi epileptic, under these circumstances, in individuals free from that dreadful disease, and in watching apoplectics while bleeding from an open vein, I have satisfied myself that this was the precise moment of the supervention of paralysis; probably the precise moment of the rupture of some overcharged and burthened vessel, and the substitution of extra-vascular for intra-vascular pressure: the latter always hopeful and remediable, and comparatively innocent; the former invariably injurious and in the highest degree dangerous to life, if not absolutely an irremediable evil.

In the meningeal or phrenitic I did not in the first instance employ

the lancet.* All that could be hoped for from this useful instrument at this period was as perfectly, easily and surely effected by cold affusions. He who has not learned the efficacy of this simple remedy in cerebral affections, generally may add an important agent to his list. The patient being raised to a sitting posture, cold water should be poured from the height of a few feet upon his head. The flushed face will become pale, the hard, quick pulse, will sink to a mere thread, and the coma and stupor will rapidly subside. Again and again the symptoms returning will call for a repetition of the affusion. I saw in one day five persons in the situation above described, three of whom recovered entirely under this simple means of cure. If the recovery was not thus complete, and mania and phrenitis supervened, the cases were for the most part manageable, but now a free use of the lancet became necessary, and purgatives of the *most active* power were demanded. The number of deaths from apoplexy and insolation, (for the caption is thus separated in our bills of mortality,) were, in 1824, no less than thirty-four, adding those under the head of "sudden death;" among adults, almost demonstrably attributable to the same causes, four; gives us an aggregate of thirty-eight.

The nearest approach to this large number was in 1823; the amount however being much less—it was twenty-five. In 1822 it was but eleven. In 1827, the weather being hot, not more than fourteen.

Such as have been detailed are some of the primary and more immediate effects of the application of high atmospheric temperatures to the system. Heat expands the fluids, and stimulates the solids. It is a natural consequence of this latter influence, that after a time a general relaxation of the system should ensue. The functions are performed with less vigour, the vital powers lose somewhat of their energy, and a universal languor pervades the animal frame. The appetite is less keen, the digestion slower and less perfect, and often attended with perceptible degrees of febrile irritation. The secretions from the intestinal mucous surfaces, as from the external surface of the body, are poured out in greater abundance than at other times; hence diarrhœa, cholera, simple dysentery; dyspeptics suffer much, and all are occasionally dyspeptics. The least intemperance in eating, or improper indulgence, being followed by greater or less gastric disorder.

But winter comes at last to give tone to the relaxed solids, to con-

* Inflammatory action cannot instantly commence, though its ultimate supervention is to be dreaded and expected. Loss of blood is no prevention of inflammation, (which comes on as readily in the weak as in the strong,) although the most important of our means of cure.

dense the expanded fluids, to invigorate the mind and the body. For these changes we are gradually and imperceptibly prepared. The cool nights, and foggy mornings of autumn, which become so dangerous from careless exposure, by gentle and repeated shocks entice us to the use of more guarded clothing, remind us to close our windows and doors against the ingress of their chilling and damp air, and at last, on the approach of frost, we are found drawn round the evening fireside, and enveloped in woollen garments.

Let the poet sing of the monotonous charms of his ever-during spring; the philosopher and the physiologist cannot cease to admire the wisdom which instituted the system of perpetual change, and which gave all nature to exult in, and revive by those very contrasts of condition, which to the eye of a careless observer appear harsh and shocking to her.

ART. III.—*Case of Amnesia.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

PHYSIOLOGY and pathology lend a mutual aid in advancing their progress. Physiological facts, by establishing the natural or healthy structure and functions of our organs, instruct us in their morbid condition, and indicate the methods by which it is to be repaired. Pathological facts, accurately observed and clearly detailed, enlighten us on the physiological state of our organs, and tend to the elucidation of their offices when they are unknown. It has been correctly observed, that pathological facts are experiments performed by nature, and when they are comprehended, are less liable to deception, than those proceeding from the violent means required by art. It must, however, be acknowledged that disease is so seldom confined to a single organ, especially when, in an apparatus, organs are grouped together in a small space, that it is difficult to avoid falling into error, and not to confound the results of one organ with what actually belongs to another.

Our knowledge of the encephalic organs is wanting in speciality; general conclusions have been arrived at, through the medium of experiments, of pathological observations, and the study of individual peculiarities. In this way it is known that they are the seats or organs of the intellectual faculties, of sensation, of locomotion, and the expressions; and the general location of these functions is determin-

ed with some accuracy. It is a question yet to be decided, whether the intellectual and moral faculties have for their various modifications distinct organs, or have the brain as a common organ in which the different faculties may be displayed. This question is to be mainly resolved, it is most probable, by a careful attention to the intellectual phenomena in a morbid state. In this view, the following case, it appears to me, is deserving to be placed on record.

The Rev. Mr. R. the subject of this case, is aged forty-eight years; he is of the sanguine temperament, ruddy complexion, light-coloured hair and eyes, and has lately manifested a strong tendency to obesity; his health for many years has been excellent; he is not subject to head-ache, or to any nervous symptoms. His intellectual faculties are of a high order, but have not been as actively employed as formerly, and he has experienced some mental anxiety: his temper is placid, with a disposition bordering on gaiety.

On the 5th of September last, early in the morning, he awoke with head-ache, after a restless night. He had, the preceding evening, been exposed to the night air, which had lowered in temperature, and perspiration, which was usually copious, received a sudden check. He took some castor oil, which acted freely in a short time, after which he again laid down. About eleven o'clock, the Rev. Mr. H. who resides in the same dwelling, went into his room to inquire respecting his health, and was surprised to find Mr. R. could not answer his questions. Alarmed at this circumstance, he immediately requested me to visit Mr. R.

I found my patient in bed, evidently in the full possession of his senses, but incapable of uttering a word. I examined the tongue, and ascertained it was not paralysed, but could be moved in every direction. All my questions were perfectly comprehended, and answered by signs; and it could be plainly seen, by the smile on the countenance, after many ineffectual attempts to express his ideas, that he was himself surprised and somewhat amused at his peculiar situation.

The face at this time was flushed, the pulse full and somewhat slow, and to my inquiries if he suffered pain in the head, he pointed to the front of his forehead as its seat.

I directed hot water to be brought in a bucket, for a pediluvium, and made preparations to draw blood. Mr. R. exhibited at this time a strong desire to speak, and, after a great many ineffectual efforts, endeavoured to make me comprehend his meaning by signs. Finding I could not understand him, he made a sign that he would write. When furnished with pen and paper, he attempted to convey his

meaning, but I saw he could not recall words, and that he had written an unintelligible phrase: it was "Didoes doe the doe."

Forty ounces of blood were drawn from the arm, and before the operation was completed, speech was restored, though a difficulty continued as to the names of things, which could not be recalled. The bleeding and pediluvium produced some faintness, and he was placed in bed.

The loss of speech appearing to recur again, in fifteen minutes, ten ounces more of blood were abstracted, and sinapisms applied to the arms, legs, and thighs, alternately: the skin became moist and the head-ache was relieved.

Mr. R. now communicated to me, that when he made the attempt to write, he had intended to inform me he had already used a foot bath, and I might see the floor still wet, where the water had been spilt.

The sleep that night was disturbed by uneasiness and throbbing in the head, which disappeared in the course of the 6th, and no further return of the affection has occurred.

In an analysis of this case, we are presented with the following facts: 1st. Sudden suppression of the cutaneous transpiration, succeeded by cerebral irritation and determination of blood to the brain; 2d. frontal pain immediately over the eyes; 3d. perfect integrity of the sensations and voluntary movements; 4th. the general operations of the intellect undisturbed; ideas formed, combined and compared; those of things, of events, of time, recalled without difficulty; 5th. loss of language, or of the faculty of conveying ideas by words, though not by signs: this defect was not confined to spoken language, but also extended to written language.

The inferences to be drawn from these facts, are, 1st, that as the cerebral irritation produced no general affection or disturbance of the functions of the brain, it was local or limited; and 2d, as loss of language was the only functional derangement of the intellectual faculties, that faculty must have been connected with the portion of the brain, the seat of the irritation; and 3d, that an organ of language exists in the brain. This case lends a strong confirmation to the general truth of the doctrines of Phrenology.

ART. IV. *Reports of Cases treated in the Baltimore Alms-house Infirmary.* By THOMAS H. WRIGHT, M. D. Physician to the Institution.

IT has been occasionally noticed by writers on dropsy, that there sometimes occurred in such cases, a termination by sudden death, when the cases did not exhibit any thing on which the presumption of such an event, at the time, could be rested. The instances of sudden death in dropsical cases, have been remarked to occur much more frequently in the hydrothoracic form of effusion than in general dropsy, with ascites and anasarca predominating, and it has been further remarked that sudden death not only often ensued to dropsies, which were running a course that could not be controlled by medical management, but that the same event had sometimes intervened most unexpectedly shortly after an apparent cure of dropsy, (particularly of the hydrothoracic species,) and when the patients seemed to be making rapid progress in convalescence.

It has been attempted to explain this untoward accident, by presuming the existence of such eventual accumulation of fluid, either in the pericardium or sacs of the pleura pulmonalis, as by pressure, to overwhelm the contractile energy of the heart, or from the same cause, to extinguish the capacity of the lungs for expansion necessary to life; in either way, causing death by a species of suffocation.

It is certainly possible that in one, or both the modes suggested, the general and pulmonary circulation, as well as the function of respiration, may have been sometimes fatally embarrassed in advanced dropsy. But it is by no means clear, how such a cause of embarrassment should be suddenly fatal, as from its mode of action, it must necessarily be gradual in its effect, and most probably attended by certain premonitions of its tendency, some time antecedent to the decisive result. Such a cause, moreover, seems very little fitted to explain the occasion of sudden death, in those cases where it has ensued after the signs of dropsy have been removed so far as to permit nearly complete relief to all the functions which had been impaired or impeded by the previous disease.

The pathology just referred to—namely, fatal pressure on the heart or lungs by accumulated fluid, has been considered unsatisfactory, and insufficient to explain the phenomenon which it proposed to solve. A different rationale has been founded, partly on analogy with the cause of sudden death in some other forms of disease, and

partly on facts occasionally disclosed by dissection in some suddenly fatal cases of dropsy. Ossification of the valves of the heart, (at the root of the great trunks,) or of the coronary arteries, has been found in some such cases, and a general argument has been deduced from those cases of the same, or some other state of degenerescence of the great organ of circulation, as the true cause of the abrupt termination of the functions of life during the course of dropsy, or soon after its apparent removal.

The inference here attempted to be established on analogy, or on the degeneration of structure noticed in a few instances, is not well sustained as the only, or even the common cause of the incident to which it is applied. Such degeneration may be, and probably is, often associated with dropsy, (especially hydrothorax,) occurring in advanced life; perhaps a similar morbid state of the main instruments of circulation is sometimes the immediate or efficient cause of dropsy itself ensuing in old age. But dropsy is a disease of all periods of life, and is well known to owe its existence to conditions of the system, and derangements of certain organs and functions, which derangements, there is no reason to suppose, were in any degree the consequence of positive defect or permanent change of structure, either in the principal organ, or other part of the vascular system. The common fault of a part of the circulating system, to which dropsy in its various forms is consequent, is error of action, not vice of structure. There is not necessarily associated with dropsy, in the general, such impair of any of the constituent textures, as to prevent ultimate restitution of health, with complete and perfect integrity of all the organization and functions; and no reason can be derived from the nature of dropsy why it may not go to a fatal issue without sensible organic lesion, or any other final cause of that event than a change of action and ultimate loss of natural office in a particular function or set of functions, indispensable to life. It is known, that from whatever impulse the tendency to hydropic action may have been devolved on the serous tissues, it is finally to derangement and loss of function in the instruments of elaboration and nutrition, we are to look for the general and usual cause of death in dropsy. In such cases, actions of waste predominate over those of repair, in a constantly increasing inverse ratio. An extensive set of instruments, the capillary series of exhalation, intended naturally to elaborate from the circulating mass, a proportion fitted to maintain the equipoise of the whole, to prevent congestions, and preserve a particular condition of contiguous parts are forced into excess, and perhaps in some

degree change of action, by which they make an undue demand on the general stock of the material of alimentation,* and finally involve the constitution in serious or fatal difficulties, both by the general impoverishment, and the incumbrance devolved on important organs, by the amount of deposit eventually accumulated under the continued state of super-excretion, or what may perhaps not improperly be termed a kind of universal serous extravasation. Ossification or other structural transformation in the heart, valves, or tunics of the great vessels, may be casually present in some hydropic cases, and may involve liability to sudden death in the course of the disease. But such complication is accidental, and comparatively rare, and numerous instances of sudden death have occurred from dropsy, in which no deviation from natural structure could be found in any part of the vascular system.

In the advanced and mature stages of dropsy, when the powers of the constitution begin to fail seriously under the accumulating embarrassments of the disease, and the fatal crisis is near at hand, it frequently happens that the functions of the brain betray the most prominent form of oppression and danger. Symptoms of cerebral congestion arise; a tendency to stupor comes on; or complete coma ensues, simulating very much the common signs of apoplectic invasion. This state of the sensorium may arise from more than one cause. Either the hydropic action may have been assumed by the delicate serous tissue of the brain, and the sensorial functions be overwhelmed by effusion, or what perhaps is more usually the case, the appearances of apoplectic disorder result from sympathy of the brain with the failing office of respiration. Serous engorgement of the lungs—anasarca pulmonum, is often the ultimate consequence of hydrothorax, and of general dropsy fully matured, and pervading all the serous and cellular textures. This state of the lungs embarrasses the pulmonary circulation, and unfits the lungs themselves for that office of elaboration which is indispensable to the healthy excitement

* The vitiated or effete state of the blood in advanced dropsy is not mainly dependent on the drain of its watery parts by exhalation, for its aqueous constituent generally superabounds in proportion to the duration and maturity of the disease. It is of course, to imperfection in the digestive economy, we must refer the altered constitution and obvious impoverishment of blood in confirmed and chronic dropsy. An altered state or office of some of the organs devoted to this function, may have been a primary occasion of the dropsical diathesis, or the digestive organs may have fallen into error and disability during the progress of dropsy, developed from causes originally invading the health of other systems.

of the whole system, and the defect of which is felt first and most sensibly in the vital economy of the brain. The bronchial tubes and cells being loaded by effusion, and encumbered by interstitial deposit, gradual suffocation results, preceded by abolition of sense, coma, &c. from diminution of sensorial and vital energy in the brain and nervous system, which diminution will be then in the direct ratio of the imperfection or efficiency of the function of respiration.*

The symptoms of cerebral congestion in dropsy, a short time antecedent to death, have been also sometimes referred to a species of mechanical impediment of the cerebral circulation. It is supposed that in consequence of the failing power of the heart, and almost extinguished play of the lungs, together with the encumbrance of excessive serous infiltration, the venous return circulation of the head may undergo a kind of stasis, or be greatly retarded; that the sinuses of the brain hence become engorged, and the functions of the organ extinguished by congestion and pressure. Some truth, perhaps, mingles with the mere conjecture, on which this pathology rests in the general. The venous, as well as the arterial system, is commonly very greatly impoverished in advanced chronic dropsy, and a nearly equal balance of those systems is usually preserved. But in dropsies of rapid development, occurring in constitutions plethoric and robust, where the excitement is tumultuous, tending to early loss of balance in the systems; to local determinations, and sudden collapse, in such instances, and only in such instances, strongly-marked symptoms of congestion, may perhaps admit the illustration which the theory contemplates.

The following case supplies a satisfactory explanation of one of the causes of sudden death, ensuing to hydrothorax, after the signs proper to that form of dropsy were no longer perceptible, and when the case seemed to have put on the character of decided convalescence.

* Reference is here made to that somewhat sudden extinction of sense and motion, with stupor, &c. which occasionally ensues to dropsy at its maximum of evolution; a state usually preceded by laborious and imperfect breathing, with that livid hue of face and skin, which tells distinctly of disabled pulmonary circulation and its consequences. It is this state, of which the defective sensorial excitement alluded to, is supposed to be consequent or concomitant. There is still a third mode, (besides cerebral effusion or pulmonary engorgement,) in which the rather sudden failure of the sensorial functions may occur in mature dropsy, namely, that mode in which the same functions commonly give way in almost all forms of protracted disease, approximating their fatal crisis: a state of collapse and positive exhaustion.

Case I.—*Hydrothorax, Partial Ascites, and great Infiltration of the Lower Extremities.*—Charles O'Neal, labourer, aged forty-seven, was admitted into the Baltimore Alms-house Infirmary, June 20th, 1827. The symptoms of thoracic and general dropsy had commenced four months antecedent to admission, and were consequent on cold, fatigue, and long exposure to wet, in the laborious occupation of ditching, at which he had been employed the greater part of the preceding winter. The difficulty of breathing was now great, with inability to lie down; cough inconsiderable, slight fever, no acute pain, bowels torpid, and urine scanty.

This patient was put on the use of a bitter cathartic infusion—gentian, senna, supertartrite of potash, and aromatics—which kept the bowels freely soluble, and increased the secretion of urine, but without sensible alleviation of the symptoms of hydrothorax. The breathing continued anxious, difficult, and crepitating, and the inability to lie down for more than a few moments, remained as at first. The infusion was continued, with the addition of a diuretic compound: tinct. digitalis, ol. terebinth. and spt. nit. exhibited along with the cathartic draught. The purgative and diuretic effects of the combination were very considerable, and both the ascites and anasarca were greatly reduced. No favourable impression, however, was made on the hydrothoracic affection, and the agents hitherto employed were laid aside. The after-treatment consisted of a liberal use of solution of cream of tartar sweetened with molasses, in a draught of which was occasionally exhibited the following diuretic compound, fecula of elaterium, two grains, tinct. scill. and oxymel colchici, each half an ounce, in four ounces of solution of acetate of potash; dose, two to three drachms, pro re nata. The salutary operation of those agents soon became manifest, and was very explicit. In five or six days after adopting the latter course, the respiration became easy, measured, deep, and inaudible, having lost all crepitation. The breast was also now more distinctly resonant to percussion, and recumbency was practicable without inconvenience.

It was about the first of August, six weeks after admission, that the propitious circumstances just recorded occurred, and gave such indications of amendment, as seemed to remove all cause of apprehension for the present. On entering the infirmary, sixth of August, it gave me great pleasure to notice this patient, dressed and sitting on his bed, with a countenance strongly expressive of the ease and comfort of his present feelings, contrasted with his distress for many weeks preceding. His remarks were full of confidence in his agree-

able sensations, and exultation at the prospect of prompt and perfect recovery. Two hours after leaving the infirmary, I was called to return there in haste, on information that O'Neal had been seized with a fit. In a few minutes from his attack I was at his bedside, and he was without a sign of life.

I was at a loss to account for the catastrophe in this case, and my conjectures hesitated between the presumption of lesion in the brain, or sudden extinction of the heart's action, from concentrated dropsy of the pericardium.

Dissection, a few hours after death.—The head was first examined. The dura mater presented nothing uncommon, except a degree of humidity, greater than occurs in the natural state; the proper tunics of the brain were also overspread by a very sensible quantity of thin serous fluid, constituting a remarkable dampness of the surface, rather than any positive collection of fluid, though the amount much exceeded the natural halitus with which the parts are bedewed. There was some degree of engorgement of the superficial sinuses of the brain, but no mark of inflammation of the tunics. Cutting away the medullary substance cautiously down to the lateral ventricles, they were found very much enlarged, as if recently greatly distended, but were at this time quite empty. On prosecuting the dissection below the level of the tentorium, the fourth ventricle, the head of the medulla spinalis and whole base of the brain were inundated by water, which, when the head was depressed, flowed out to amount of five or six ounces.

On referring now to the enlarged and empty state of the lateral ventricles, it seemed apparent that the fluid found upon the base of the brain had been first accumulated in the lateral ventricles; had remained there, for an uncertain time without serious consequences, and at last by forcing the valvular defence, and the pulpy closure of the passage leading to the fourth ventricle, had dropped suddenly upon that cavity, and by rupture of the ventricle, (at its thin, inferior surface,) was effused upon the medulla oblongata, and into the spinal canal. Pressure to a great degree thus suddenly made on the origin of the most important nerves of organic life, seems fully adequate to explain the total extinction of sensorial function with the nearly instant death that ensued in the case of this patient. In the thorax, the sacs of the pleuræ, and the pericardium, there was very little effusion; nor was there any obvious morbid state of the heart itself, or about the origin of the great vessels.

The circumstances attending this case, its mode of termination,

and the facts disclosed by examination, tending to render that mode of termination intelligible, all seem to point to a certain inference in the present, and in relation to similar cases. They lead to the conclusion, that in dropsical disease, while effusion is going on in the serous and cellular textures of the great cavities and general body, a similar result may obtain in the delicate ventricular tissues of the brain, and especially of the greater or lateral ventricles.* It seems probable also, that this partial hydrocephalic state may remain inoperative for a time, perhaps in some instances a long time, until from quantity and gravitation, or some shock causing its irruption, it may suddenly inundate the base of the brain, and produce instant death, by invading the seat and suppressing the function of the most important nerves. The event in contemplation may occur at some stage of progressive dropsy, or may ensue at various intervals subsequent to apparent removal of the general hydropic state; for it is probable, from many facts and analogies, that hydrocephalic accumulations are seldom removed, or diminished by absorption.†

Case II.—*Dropsy.* A young man aged twenty-seven, by occupation a stage driver, had been for more than a year in ill health, with indications of hydrothorax, and tendency to general dropsy. His countenance was pallid, abdomen somewhat tumid, and lower extremities infiltrated. There was also cough, quick and laboured breathing, especially on exertion, and that wheezing or crepitating sound in respiration, so characteristic of serous extravasation into the bronchial tubulous, and pulmonary cellular structure.

A long course of purgative and diuretic agents, in combination

* It is the suggestion of some eminent anatomists, (the Bell's,) that the plexus choroides is almost entirely a web of vessels destined to the secretion of a fine serum or halitus. If this opinion be well founded, it may explain why great serous accumulation is more generally found occupying the lateral ventricles than the other cavities of the brain, as only a very faint appearance of choroid plexus can be discovered in the other ventricles.

† A surmise of absorption has been founded on some examinations of the head, in which previous hydrocephalic collection was inferred from certain indications in the state of the membranes and ventricles, though there was no longer sensible effusion. Yet the long period, sometimes years, for which the water of hydrocephalus is known to have remained unabsorbed, taken in connexion with the fact, that cases attended by unequivocal signs of matured hydrocephalus, are very generally fatal sooner or later, places the presumption of absorption to an extent sufficient to relieve dropsy of the brain, on ground of doubtful authority and difficult admission.

with the tonic bitters, had greatly improved the general health of this patient, yet some embarrassment of respiration remained, and a faint rattle in breathing continued also audible. In January, 1827, after an interval of much better health than usual, this man, while making some exertion to attach his horses to the carriage, became faint, dropped to the ground, and expired immediately, without the least apparent violence or struggle.

On careful examination of this subject a few hours after the accident, it was rendered strongly presumable that death had been caused by sudden descent of water from the lateral ventricles, upon the fourth ventricle, with effusion upon the base of the brain generally, and head of the spinal marrow. The lateral ventricles were dilated and empty, and the inferior cavities of the head inundated by fluid to the amount of three, perhaps four ounces. No degeneration or disease appeared about the heart or great vessels.

Case III.—*Anasarca and Ascites.* William Tarring, aged twenty-six, was admitted into the Baltimore Alms-house, September 17th, 1827. This was an aggravated case of general dropsy, uncomplicated however by hydrothorax. Abdomen extremely prominent and tense; upper and lower extremities greatly œdematous; countenance eminently leucophlegmatic; great debility; breathing short but clear, without mark of bronchial effusion; no cough and absence of fever. The dropsical affection had existed some weeks prior to admission, and was consequent on severe remittent fever, contracted in August, while working on the Harrisburg canal.

The excessive tension of the abdomen in this case prevented any satisfactory examination, by taxis, of the great viscera of the belly, the liver, spleen, &c.; but from the patient's report of having been in good health previous to the attack of remittent fever, on which the dropsy was consequent, and from the absence of any representation of serious hepatic derangement in the complexion, the tongue, excretions, &c. of the patient, the case was presumed to be free of any actual organic impairment. Some degree of primary visceral congestion, high and continued tumult and effort of vascular action, with more or less irritation and disorder of the gastro-hepatic functions, and proportionate exhaustion ensuing to those joint causes of disturbance, seemed to have led on rapidly to hydropic effusion, with the disabled and oppressed state of the system which the case presented on admission.

The usual remedies of dropsy, (omitting in a great part mercurial combination,) were employed in the case as freely as circumstances

would permit. An infusion of gentian, senna, supertartrite of potash, and aromatics was given liberally, with powders of squill, nitre, and digitalis; Dover's anodyne being added to the powder exhibited at night. The patient was also directed the free use of barley water, acidulated with cream of tartar, and rendered moderately cordial by gin. Under this treatment both the bowels and kidneys performed their appropriate function with as much activity as was desirable; the tension of the belly was gradually taken off, and the overloaded cellular tissue became relieved. The evacuation of the dropsical effusion went on slowly but constantly, and by the careful regulation of the medicines, with due alimentary support, the patient was free of oppression, and somewhat recruited in strength by the end of the fifth week after admission. This man became able to leave his bed, and walk the infirmary hall every day for some hours, eating with appetite his whole allowance of food. During this promising state of convalescence, Tarring was attacked in a season of wet weather, late in October, by quotidian intermittent fever, for which bark and aromatics were given freely, and the paroxyms were interrupted after the third period. But the patient was a good deal worsted by the attack, was confined to bed by debility, and in a few days subsequent to arrest of the intermittent paroxysms, dropsical effusion began to display itself in the extremities. In a week after he was almost as much affected by ascites and anasarca, as when first admitted.

The remedies successful in the first instance were tried again, more sparingly however in quantity; but their good effect was not so considerable as formerly, the action of the absorbents, of the kidneys, and of the bowels, being much less efficient; and after a longer perseverance in the medicines than had been necessary to effect improvement in the first instance, the amount of effusion remained undiminished, while the energies of the constitution had gradually declined.

The medicinal agents were then changed; good Lima bark with an aromatic was ordered, and the patient directed a liberal use of the cream of tartar punch, with the addition three or four times in twenty-four hours of two drachms of a diuretic combination before noticed; namely, fæcula of elaterium four grains, in four ounces of solution of acetate of potash, adding tinct. of squill and oxymel of colchicum.

This plan of treatment, with light cordial nourishment as freely as could be taken, gave a better aspect to the case. The urine augmented very much, the alvine evacuations became copious and watery, the tension every where relaxed gradually, and the forces of

the circulation rallied to the natural tone as the oppression was taken off. Early in December the signs of dropsy were a second time dissipated, and the youth of the patient, in connexion with a naturally good constitution, encouraged the expectation of permanent convalescence. Nothing occurred to defeat the presumption of perfect recovery in this case until the 20th of December. The man had been about all day, and on that evening had eaten a hearty supper, and seemed as well and comfortable as for some time before. An hour after supper the nurse of the ward was called to Tarring, by a patient in an adjacent bed, who observed him fall suddenly into a state of unusual agitation and disorder. She found him with limbs rigid; oppressed, stertorous respiration; and in a state of insensibility from which he could not be roused. He expired in a few minutes.

From circumstances which rendered autopsic examination inconvenient at the time, the direct cause of sudden death in this case was not ascertained. But from the marked analogy in the manner of Tarring's death, with previous fatal instances under like general circumstances, where serous extravasation was found to have occurred in the basis cerebri and medulla oblongata, the issue of his case was referred to a similar cause. The period of life in this case was much against the probability of organic degenerescence of structure about the organ of circulation; and the presumption of serous, cardiac, or pulmonic infiltrations was equally opposed by the non-existence of even the slightest hydrothoracic symptoms at any period of the dropsical affection.

The following case, though unlike the preceding from the total absence of all the external characters of dropsy, may serve to illustrate by analogy, the mode of suddenly fatal termination, sometimes occurring in the course or at the close of that disease: an event which the antecedent histories were designed to refer to its probably most common cause. The present case has points of interest in other respects also, which seem to render it worthy of recital.

Case IV.—*Ulcer of the Leg.* Thomas Coursey, a black man, aged seventy-four, of very large frame of body, and apparently great original vigour of constitution, was admitted into the Baltimore Alms-house in September, 1827. This man was in good general health when admitted, yet was disabled from work partly by age, but more from disease of the left inferior extremity. The motion of the left knee-joint was entirely lost, in consequence of severe contusion of the part received thirty years before. From the man's account, arthritis to a great degree had ensued to the injury in the first instance, followed by profuse sup-

puration, great distention, and ultimate relaxation of the synovial membrane, articular and capsular ligaments, and finally spontaneous subluxation, outward and backward, of the head of the tibia, which, becoming permanent, caused a very curious and rare species of deformity.

Besides the distortion and anchylosis of the knee-joint, the leg was overspread by a large and deep ulcer of the chronic indolent class, which had commenced simultaneously with, or very soon after the injury of the knee, thirty years past, and had never healed. The surface of ulceration was altogether, at the patient's admission into the infirmary, about ten inches in extent, suppurating profusely, and from its seat, appearance, and duration, had probably long since involved a diseased state of the periosteum and bone. The man's general health being good, nothing further was directed in his case than rest and such local treatment as was indicated by the state of the ulcer, namely, cleanliness, and dressings fitted to maintain, as far as possible, a healthy state of the suppurating surface. From the man's age, the character and duration of the ulcer, its complete closure or cicatrization was not contemplated or deemed probable.

This man remained well for three months succeeding his admission, evincing no proclivity to any form of serious or constitutional disease; his spirits, appetite, and personal appearance were all perfectly well maintained. The ulcer of the leg during this time had undergone, as was expected, scarcely any sensible change, other than the clean appearance and absence of irritation, which frequent and regular dressing, with continued rest, would almost necessarily produce; its dimensions were but little diminished. Late in December, however, a sudden and remarkable alteration was displaying in its character. It commenced a course of rapid healing, and in ten days from the time the change was first noticed, the whole original space of the ulcer was covered in, and cicatrized very smoothly, leaving only a central point a few lines broad, which furnished a partial suppuration.*

No obvious difference in the patient's general health attended this sudden healing of the ulcer, but a very prominent change was manifested in the man's temper and moral habits. He became peevish, quarrelsome, and indocile in his conduct, averse to keep in his place or

* A man named Lafito, who had been long a dresser in the house, and formerly, as he represents, in the same capacity in the Philadelphia Alms-house, remarked, while exhibiting the great change in the state of Coursey's leg, "that the man had not long to live:" an idea of danger from the sudden healing of old ulcers not alway realized, yet far from being altogether a vulgar notion or groundless prejudice.

put up with his accommodations in the ward, and very impatient of admonition or control. His language and manners betrayed nothing of derangement of intellect, properly so called, yet his fretful, unquiet state, and improper manner of speaking, rendered it at last necessary to remove him from the ward to one of the cells, where he was kept alone, but without any personal constraint. This was done in the second week after the healing of the ulcer, and on the day following his removal to the cell, Coursey was visited by the superintendant of the institution, who found him apparently well as usual, but as before, very much disposed to rude and passionate complaints, which he indulged to a great degree on the present occasion. In a few minutes after the visit of the superintendant, the keeper of the cells came to report that Coursey had fallen down in a fit and died instantly.

Examination, four hours after death.—The dura mater exhibited nothing uncommon, except an unusual blanched appearance, and was without marks of inflammation or of vascular engorgement. The proper tunics of the brain presented a natural condition, or were in no other manner altered in character than by excess of humidity, and the same blanched or sodden appearance observed about the dura mater.* This humid and bloodless appearance was obvious in the successive portions of the medullary matter, removed in penetrating by sections down to the lateral ventricles. When those cavities were arrived at and carefully opened, they presented the most extraordinary degree of enlargement I have ever witnessed. The ventricles were penetrated at the posterior horn, and were found empty; but on enlarging the incision, and lifting the thin covering which had been left them in removing the cerebral mass above, the ventricles presented rather the appearance of caverns than cavities in the brain, seeming capable of receiving a body of considerable size, (as a small orange or lemon,) and of space sufficient to contain several ounces of fluid. On being fully exposed, the delicate tunic reflected around the ventricles, was of highly florid colour throughout, from minute vascular engorgement, while the plexus choroides was a good deal wasted, and altogether colourless, not easily distinguishable, and much resembling a gelatinous mass. The valvula cerebri, (of Vieus-

* The convolutions of the cerebrum were much deeper, and more readily and widely separable from each other on this subject than I had ever noticed them in any other instance. In all those fissures, and to a great depth between the convolutions might be seen bundles of vessels running in straight lines, or stretched across the interspaces, and all those vascular fasciculi, (the deep arteries and veins of the pia mater,) of high colour, and very much engorged.

SEES,) could not, from distention of parts, be recognised; the aqueduct of SYLVIUS was very much dilated, and from its commencement down into the fourth ventricle, was filled with water; as was also the fourth ventricle, the whole space around the base of the brain and head of the spinal marrow; the same fluid gravitating freely into the vertebral canal. The quantity of water poured out of the inferior cavities and space of the brain, and of the upper vertebral cavity, exceeded six ounces; its colour was slightly red, and it was somewhat viscous or albuminous to the feel when rubbed between the fingers.*

In this case, circumstances warrant the presumption that the great quantity of water found occupying all the lower cavities and space of the head, was originally produced in, and for some time confined to the lateral ventricles, from whence it descended, probably suddenly, into the fourth ventricle, (which was ruptured inferiorly,) and thus became effused and free as it was found on dissection. The cavern-like enlargement of the lateral ventricles indicated great distention by previous accumulation of fluid.

The dissection was not prosecuted further, as the state of the encephalon was considered fully illustrative of the cause of sudden death; and during the life of the patient, the economy and functions of all the viscera of both cavities of the trunk were perfectly well maintained, and singularly free from every mark indicative of organic embarrassment.

The phenomena arising towards the close, and concurring in the termination of this case, viewed in connexion with the direct cause of that termination revealed by dissection, bear a seeming intimate relation to two points of physiology. They tend to illustrate the liability and mode of sudden death from large collections of water in the upper cavities of the brain, and serve in the present case forcibly to call to mind the ancient and much-controverted doctrine of the metastatic attribute of disease. A doctrine fruitful of medico-scholastic dispute, which, after various fortune, and a period of protracted dormancy, has been revived under the light of better science, and become a good deal the favourite of modern pathology.† Can we

* The commissura mollis, so seldom to be found, that its existence has been questioned by some eminent anatomists, was very distinct in this case. It was of pale, yellowish-gray colour, semi-translucent, about the size of a writing quill, standing as a bridle across the thalam. nerv. opt. under the fornix. Mr. Bell is probably right in saying that the commissura mollis is best seen in hydrocephalic brains. I have not discovered it plainly in any other.

† In substituting the metastasis of morbid actions for the original notion of a translation of morbific matter, or the migration of disease in its limited and lite-

allow ourselves the inference in the case before us, that the sudden healing of an extensive ulcer of thirty years standing, was concerned in the change represented to have taken place at that time in the patient's conduct and manners, and that the moral effect in question resulted from physical irritation devolved on the encephalon? Can we further presume, on legitimate metastatic principles, that the sudden suppression of habitual suppurative action over an extensive surface on the leg, might give occasion to that excitement to serous exhalation into the cavities of the brain, the product of which was so prominently obvious in this patient's case.

Regarding it as a curious fact, that a rapid and apparently sound closure of an extensive ulcer of thirty years continuance should have occurred, where I felt assured that the subjacent bone had suffered degeneration, probably in a great degree, I caused a portion of tibia to be cut out, and subjected to maceration for a sufficient time to free the bone of all soft matter. When this was effected, and the bone dried, the seat and extent of the ulcer was found very clearly and strongly defined on the tibia. There existed a very peculiar change, which the surface of bone, corresponding to the ulcer, had undergone, which was not caries or necrosis in any of their forms; the bone was firm and solid over its whole extent, but a singular state of granular and scabrous roughness occupied the space of bone answering to the seat of the ulcer. There existed, in fact, for some inches on the face of the tibia a dense crop of exostoses of various form and dimensions, some of the miliary character, and small size; others, orbicular or pisiform, of considerable magnitude, and many scaly or laminated, with broad surface, raised on a sort of footstalk, and were thus button-shaped, or much resembling small fungi of the mushroom species. All those productions were white and solid, (not easily broken off,) and were apparently complete specimens of ossification. The possibility of the formation by gradual interstitial waste of bony substance was taken into consideration, but there were no evidences of such interstitial waste having occurred, there were no marks of softening or caries upon or around the surface affected, and the circumference of the bone, taken between the eminences of the affected surface, was equal to the shaft of the bone above or below the limits of disease.

ral sense, modern pathology has taken a ground so well sustained by observation and facts, as to be perhaps impregnable. That on the sudden suspension of morbid actions in one seat, irritation and its consequences may be simultaneously developed in some other part; the latter holding a relation of dependance or substitution to the former, seems entitled to rank as an axiom of medicine.

ART. V. *Clinical Reports of Cases treated in the Infirmary of the Alms-house of the City and County of Philadelphia.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

THE following cases are a portion of those that entered the clinical and medical wards of the Alms-house Infirmary during the last fall and this winter, and were most of them the subjects of the clinical lectures and remarks delivered to the medical students who attend on the practice of that establishment, by Professor CHAPMAN and myself. The reports of the cases were kept by the young gentlemen attached to the service of the institution, as resident physicians or resident students. It is to be remarked, that on the days intermediate to the visiting days of the attending physicians, the practice is directed by the resident physicians.

CASE I.—*Fever, with death from Mercurial Irritation.* T. Kelly, aged twenty-two years, entered the clinical ward, Sept. 26th, 1828; his habits of life regular; a weaver by trade. He had been ill seven weeks with fever, which, in the commencement, had been pronounced by his attending physician, bilious fever.

The symptoms on admission were, emaciation; cough troublesome at night; sense of stricture in chest; soreness of epigastrium, with tenderness and pain on slight pressure; hiccup; skin warm, dry and sallow; pulse frequent, some fulness; sordes on teeth; tongue clean, dry and polished; eyes sallow, carotids pulsate with force; perfectly sensible; great soreness of his flesh; no appetite and not troubled with thirst; diarrhœa, bowels moved six times before admission to day, and almost constantly since; discharge watery and offensive. He appeared much prostrated and exhausted by his removal to the Infirmary.

He stated that during his illness he had been vomited several times, had been very frequently purged, and had been taking powders of calomel.

Directions were given to sponge his body with tepid whiskey, to have cold applications maintained to his head, with small quantities of weak wine whey until he should recover from the effects of his fatigue, and chicken water for diet. Sulph. quinæ, gr. i. in mucilage gum Arab. was directed every three hours, and injections of laudanum, gtt. xx. with flaxseed mucilage, to check the diarrhœa. In the

evening improved; skin moist and of natural heat; pulse 76; tongue moistened; omitted sponging and cold to head; chest relieved.

27*th*.—Skin of natural warmth and moisture; tongue slightly furred, tumid, not florid, but disposed to become dry; pulse 96, soft; abdomen tumid; right hypochondrium soft, but painful when pressed; left is occupied by a large hard tumour extending to the umbilicus, but does not possess much sensibility; epistaxis; sordes on teeth; vomited in afternoon. Lime water, with arrow root and gum water for diet. Bowels too open.

28*th*.—Skin warm; tongue dry, nearly clean; pulse 100 and irritated; nausea. Omit sulph. quinæ; pediluvium, and sponge the body as before. Evening, febrile irritation declined; disorder of bowels checked.

29*th*.—Slept well; skin moist, cool, and comfortable; no fever; pulse 72, soft; tongue with adhesive mucus on it; slight hiccup and occasional retching; eyes jaundiced; abdomen covered with numerous purple spots. Beef tea for diet, alternated with oyster liquor.

30*th*.—No pain; tongue same; skin warmer; pulse more irritated; bowels disposed to be too loose. Tepid sponging, and injection of flaxseed mucilage and laudanum.

October 1*st*.—No fever, appears to be much improved.

2*d*.—Pulse more irritated; tongue become drier and florid; sordes collecting on teeth; diarrhœa; abdomen tympanitic or meteorized. Stimulant frictions to the skin, and lower extremities to be enveloped in blankets wrung out of warm water; injections of flaxseed and laudanum; fomentations to abdomen.

3*d*.—Pulse excited; skin warm; tongue florid; parotid glands swelled and painful. Poultice moistened with lead water to parotids.

4*th*.—Swelling extends over the whole jaws and face; skin stretched and shining; mouth cannot be opened to admit of an examination; skin hot; feet cold. Milk and oyster soup for diet.

5*th*.—Swelling increasing; directed leeches to parotids; breath offensive, mercurialized. The mercurial action has developed violent inflammation of all the salivary glands and mucous membrane of mouth, and which has extended to the adjacent tissues. No secretion of saliva from excess of irritative action.

6*th*.—Swelling extends down the neck on each side to near the clavicle; skin very tense but not discoloured, and the swelling is very tense, as if the facia was put on the stretch; pressure is exceedingly painful; no fever.

7*th*.—Nearly in same state; cooling lotions applied to swelling; sleeps well; soft egg added to diet.

8*th*.—Suppuration of tumour in the parotids advancing; poultice.

9th.—Tumour opened, discharged large quantity of healthy pus; relieved of pain.

10th and 11th.—Discharge of pus very copious.

12th.—Had chill; diarrhœa came on; pulse very feeble. Carb. ammon.; julep, ℥ss. every hour; oyster soup; beef tea.

13th.—Slept well; discharge from abscess very profuse; pulse extremely feeble; strength failing; diffusible stimulants exhibited ineffectually, and he died in the evening.—Case reported by Dr. Ashmead.

The body was removed by the friends of the deceased, who would not permit an autopsy to be performed.

Remarks.—This case, when first admitted, presented the characters attending on the inflammations of the mucous tissue of the digestive canal, assuming a chronic state, and which so frequently are the concluding act of bilious and remitting, and sometimes of intermittent fevers, treated improperly by emetics, active cathartics, and other irritating remedies, addressed to a tissue already morbidly irritated.

When fevers have passed to this state they generally are christened typhus; and when the meningeal membranes or the brain partake of the same condition, this designation is pronounced without hesitation; and if violent stimulation be the treatment adopted, typhus gravior, in its most characteristic shape, soon grows up under the hand of the practitioner.

On admission into the ward, the case seemed too desperate to permit an expectation of recovery to be entertained. An improvement did take place, and a fair prospect of restoration appeared to be opening, when an increase of irritation ensued, for which no cause could be at first assigned; swelling of the parotids and jaws soon followed, the origin of which, although not at first suspected, evidently arose from the action of the mercury, which had been administered previous to his entrance into the house, and had been taken during his protracted illness. No circumstance could have been more untoward than this accident. The recuperative powers of the economy were exhausted by the severe disease that had preceded, and were at best merely capable of rescuing him from the chronic inflammations that had been permitted to become established in the digestive mucous tissue; and which event was even a problematical occurrence. The development of the mercurial irritation in this state, and to the extent it assumed, was a reinforcement in favour of the disease, and to the detriment of the patient, that gave a decided turn to the contest against him.

This result of the attempt to cure fevers by the establishment of a salivation, or to place the economy under the comprehensive domination of the mercurial irritation, is, I have strong grounds to believe, a circumstance far more common than is suspected, or than many will be disposed to acknowledge.

This fashionable practice I have abandoned since the epidemic of 1822, the commencement of the series of epidemic intermittent, remittent and bilious fevers, that continue still to prevail over so large a portion of the country. I was compelled to renounce it from witnessing, in so many instances, the injurious results of the treatment to the patient. The mercurial action in violent cases, I found, could very rarely be brought on before the intensity of the local inflammations and the sympathetic fever were on the decline; and, then, the inflammations awakened by the mercurial irritation were not to be desired; they were nearly as much to be dreaded, as those which constituted the disease. In many cases after convalescence had commenced, the mercurial action came on, and I had the mortification to be perfectly convinced, though no suspicion crossed the mind of the patient, that a rapid recovery had been prevented, and protracted suffering been endured, in consequence of the employment of the remedy, though done under the sanction of high authority at home, and "great names abroad."

The mercurial irritation, it is to be kept in mind, when it is developed as febrile disturbances in the system are subsiding, does not, in numerous instances, induce a salivation; or is this effect a necessary consequence of the administration of the mercurial preparations. On the contrary they often excite, at that time, from the numerous irritations still existing, an extent of action in the mucous tissue of the digestive canal and the mouth, and which is thence extended into the glands connected with them, transcending the degree in the range of which secretion is possible. The consequence is inflammation, ulceration, hæmorrhages, together with re-excitement of febrile commotion. The new train of symptoms are then frequently set down for a relapse; and, if the mercurial treatment be re-instituted, the patient almost assuredly perishes.

Another effect of the mercurial irritation suddenly displayed in a system exhausted by an attack of fever, is prostration of the powers of the nervous system, and of the heart, with a rapid collapse terminating speedily in death. The patient, in these instances, appears to be entering into convalescence; the fever has ceased from two days to six or seven; the appetite is improving; the skin is moist, but has a flabby feeling; head unembarrassed; bowels regular. In the

midst of these favourable appearances, while all apprehensions are allayed, and a restoration is regarded as beyond a doubt, the patient, in all the cases that have come to my knowledge, is seized in the night with nervous tremors, cold sweats, great anxiety, rapid sinking of the forces, and after a short agony, often before the physician, who has been summoned on the invasion of the danger, can reach his patient, the mortal scene has closed. The cases in which the circumstances I have mentioned occurred, were those in which the system had been freely charged with mercury during the febrile period, but no affection of the gums had taken place.

The following case, in which death resulted from a salivation, occurred in the Alms-house Infirmary the fall before last.

Case II.—*Bilious Fever, with death from Mercurial Irritation.* David Anderson, aged twenty-six years, admitted into black men's medical ward, October 10th, 1827, with bilious fever. Habits intemperate; by trade a tanner; taken about a week previous to admission with head-ache and pain in back, whilst engaged at his trade. The symptoms on admission were high fever; pulse excited and frequent; skin hot, dry, and parched; tongue furred and brown; adnata of eyes of a golden colour; head-ache, and pain in lumbar region; bowels rather costive; great tenderness on pressing epigastrium. Twenty-five leeches to epigastrium. Calomel, p. vj.; oil, ℥i. to be given three hours afterwards. Blue mass, gr. iv. q. q. h.; ungt. hydrarg. fort. to be rubbed inside the thighs ter die; cold flaxseed enemata, and fomentations to abdomen; barley water acidulated as drink.

11*th.*—Much better to-day; skin less hot and dry; pulse diminished in frequency and force. Treatment continued; cold drinks allowed.

12*th.*—Doing well; eyes not as yellow; skin more moist; tongue large, swollen, and brownish-red at tip.

13*th.*—Tongue indented on each side, from pressing against the teeth; improving. Treatment continued.

14*th.*—Gums sore; breath mercurialized; pulse fuller and softer; skin soft; eyes losing their jaundiced character; tongue much swelled and sore; bowels regular; countenance more sprightly; no pain in head or in any part. Discontinue treatment. R. Gargle of borax and honey.

16*th.*—Salivary glands discharging freely; slight hæmorrhage from gums. R. Acet. plumb. gr. ij.; pulv. opii, gr. ss. q. q. h. Gargle continued. Diet, soup and chicken water; gum water lemonade as drink.

17*th.*—Free discharge from the mouth of saliva, mixed with blood;

lips and face much swollen; tongue filling up the cavity of the mouth, cannot speak distinctly in consequence; pulse full and tense; skin rather dry and harsh; mind clear. ℞. Venesection ℥xij. Treatment continued. Pil. opii, p. j. at night. Spts. camp. applied on cloths to face constantly.

18*th*—Swelling much reduced, discharge less; not so much blood; speaks more distinctly; the salivation and hæmorrhage continued; the strength rapidly failed, and death ensued on the 25th. Case reported by Dr. Frederick Horner, resident physician.

Remarks.—When this patient was admitted, a number of similar cases of high grade of bilious remittent fever were in the same ward, and the medical wards of the whites. I remarked to the students who followed the clinical practice, that I would place this patient under the mercurial treatment, as a contrast to the cases of fever that had been treated on the principles of the physiologico-pathological doctrines. The afternoon of the same day, I was attacked myself, with an irregular malignant intermittent, in consequence of incessant fatigue, frequent prolonged exposure to the impure air of the wards, which were then crowded with fever patients, and almost daily dissections in a close, unventilated place, which the managers compel us to use for that purpose. I was not enabled to resume my professional duties until the middle of December, and consequently did not again see this patient. The mercurial treatment, though with great moderation, was continued.

From the report of the case it appears that an immediate improvement was manifested, which is mainly to be ascribed to the local depletion, strict antiphlogistic regimen, and the local treatment adapted to reduce the existing irritations. This improvement was too early for the mercurial treatment to have had any chance in its production. The amendment continued to progress until the 14th, when the mercurial action became unfolded. From that time, the case assumed a new aspect; inflammation of the gums, and parietes of the mouth, and of the salivary glands, came on; hæmorrhage from the mucous membrane of the mouth, fever, incapacity of swallowing, and death, which cannot be attributed to any other cause than the mercurial inflammation and fever that had been established.

Case III.—*Chronic Entero-colitis and Ascites.* Francis Wolf, a Bohemian, aged fifty years, entered the men's clinical ward, November 1st, with ascites and œdema of his lower extremities. He has suffered with dysentery fourteen months, and has at present a dozen sanguineous discharges daily. His abdomen, which has been swelled five months,

is now remarkably distended, and emits on percussion a slight fluctuation, with considerable tympanitic resonance. Urine high-coloured and scanty; does not coagulate by heat.

2d.—Six stools since last evening; pulse full and strong; barley-water for diet; fomentations to abdomen.

3d.—Feels much better; had but one stool; pulse weak; pain in epigastrium. Ordered ten cups to the same. ℞. Blue pill, grs. iij. pulv. scillæ, gr. ½. h. s. ℞. Infus. digitalis, ℥iss.—carb. sodæ, ʒi.—aq. font. ℥ij.—suc. limon. q. s.

4th.—Much better; no tenderness in epigastrium; complains of being griped by the medicine; omit the mixture, and directed the simple infusion of digitalis; urine very copious; abdomen much reduced in size and tension.

5th.—Better; made a gallon of water within the twenty-four hours; no stool; pulse becoming active.

6th.—Made little water this morning; in the afternoon none; pulse rising; skin hot. Ordered twelve cups to abdomen.

7th.—Pulse too active; skin hot; bowels open twice; venesection to ℥xij. Evening. Found him with a high fever and dry tongue, supposed to have been excited by overheating the room.

8th.—Pulse reduced in frequency and force; bowels open; tongue nearly natural; skin cool; urinates very little. Re-commenced with infusion of digitalis. Coch. mag. q. t. h.

9th.—Pulse soft; bowels open; made a gallon and a half of water last night and to-day.

10th.—Tongue becoming red and dry; made a good deal of water last night; omit digitalis and his pill at night.

11th.—Tongue cleaning; pulse soft; makes very little water.

12th.—Bowels troublesome; makes very little water. Ordered the following: ℞. Pil. hydrarg. grs. ij.—ipecac. and opium, aa. gr. ½. made into pill; take one every four hours; venesection to ℥xij. in evening. Allowed barley-water for drink.

13th.—No material change; took his pills yesterday evening; complains of an unusual, uncomfortable feeling in his bowels, which he attributes to his medicine; discontinued pills, and takes fifty drops of laudanum.

14th.—Slept well last night; pulse better; discharged about a gallon of water this morning.

15th.—Discharged half a gallon of water last night; diarrhœa.

16th.—Feels better; bowels still open; discharged half a gallon of urine; very little changed in other symptoms. Ordered pills of two

grains sacc. sat. and half a grain of opii every two hours to check diarrhœa.

17*th.*—Pulse excited; skin cool; made a gallon of water; abdomen very much relaxed.

18*th.*—Bowels better; swelling decreasing; tongue red and disposed to dry.

19*th.*—Bowels open; skin warm; pupils very much contracted; has appeared rather flighty for the last two days.

20*th.*—Found him this morning speechless, cold, and almost without pulse. About 11 o'clock he died.

Wolf was examined in presence of most of the gentlemen of the Alms-house on the morning of the 21st. The body was not much emaciated. On opening the abdomen a considerable quantity of water escaped. The peritoneum was opaque, and presented an appearance of being thickened; it was in many places adherent to the opposing surface. The mucous coat of the stomach was thickened, and in many places red. Viewed externally, the small and large intestines were of a deep mahogany colour throughout their course. The muscular coat of all the intestines was in a state of hypertrophia, at least seven times thicker than it is usually. Internally the mucous membrane was thickened, rough, from turgid and reddish follicles, and was covered with an adhesive mucus. The liver was greatly enlarged, its specific gravity very much increased, and the structure rendered very hard and tough. When cut into it exhibited a light yellow appearance, and was studded through the texture with numerous small bodies of the same colour, presenting what is usually called the granulated liver. Case recorded by Dr. Jones, who had charge of the ward.

Remarks.—In Wolf, we are presented with a case of ascites, which evidently was induced by long-protracted irritation of the mucous tissue of the alimentary canal, and which supervened notwithstanding the frequent copious discharges from the bowels. According to the statement he made, his bowels had been in a disordered state, having frequent discharges daily during nine months, when the effusion into the abdomen commenced, and had continued until his admission. He had been under treatment, but without the slightest check having been put to the intestinal discharges, which were, however, controlled immediately by an appropriate regimen.

Of the numerous cases of dropsy that enter this infirmary, the largest proportion of them are consequences of chronic irritation and inflammation of the mucous tissue of the intestines, which, after a

certain period appears to be assumed by the peritoneal covering, and dropsical effusion ensues. In these cases, much of the swelling and of the inconvenience experienced by the patient, proceeds from the tympanitic condition, resulting from the development of flatus in great quantities in the alimentary canal. This secretion of flatus from the mucous tissues is one of the effects of its irritation.

The generally received treatment of dropsy is purging with hydragogue cathartics. In this case a diarrhœa existed throughout the disease, yet neither prevented its formation, nor diminished the effusion after it had occurred. This practice has been followed with every variety of the hydragogues in this infirmary, but its ill success has very much discouraged me in its employment. It is a rare circumstance for a case of ascites to recover. It is true, in some instances, the effused fluid is evacuated, but the patient approaches no nearer to a recovery, and the effusion again very speedily returns. The purging very often affords relief for a few hours by expelling the flatus, and the extreme distention is thus diminished, but is soon replaced. The temporary relief to the feelings of the patient from purging, is generally produced in this way: the pressure resisting the descent of the diaphragm is removed by the expulsion of the flatus from the colon, and the sense of suffocation is removed for a time. Finding in nearly all our cases of ascites, chronic inflammation and more or less of structural derangement of the alimentary mucous membrane, I have been led to doubt the propriety of adopting this practice so generally followed and recommended. Certain it is, that of the numerous cases of ascites that have been annually treated in our infirmary on that plan, not a single permanent cure can be adduced in its justification.

Case IV.—*Chronic Gastro-entero Colitis; Peritoneal Inflammation and Dropsy.* William Mackin, aged forty, was admitted, October 22d, with intermittent fever. His abdomen was tender and swelled, and his extremities quite œdematous; tongue florid, moist, and slightly furred; pulse full, frequent, and tense. Ordered flaxseed mucilage and thin sago, exclusively for diet.

23d.—He has decided ascites; some flatulence and tenderness at the epigastrium; tongue dry and red; had a chill at nine o'clock yesterday, and remains feverish. Diet, gum-water. Tinct. opii and hot bricks to anticipate the chill.

24th, 25th, 26th.—Tongue remains dry and furred; pulse becoming softer; abdomen swelled; fluctuation discernible.

27*th.*—Abdomen more tumid. Ordered the following injection three times a day: R. Tinct. scillæ, ʒss. mucilage acac. ʒij. The irritated state of his stomach rendered it improper to prescribe active diuretics.

28*th.*—Urine increased in quantity.

29*th.*—Urine not as copious; tongue more parched and furred.

31*st.*—Had a complete paroxysm of intermittent.

November 1*st.*—Skin hot and dry; pulse irritated; tongue dry and florid; tenderness at the epigastrium. Ordered fifty leeches to epigastrium; discontinued the injection of tinct. of squill.

2*d.*—Appearance completely changed; no fever; pulse natural; tenderness of epigastrium removed; tongue clean and moist; skin cool; made a considerable quantity of water; swelling diminished.

3*d.*—Continues to improve; abdomen very much distended on the 1st inst. has fallen to nearly the natural size; had a good many watery stools. Evening, a slight chill with some pain in the abdomen. Ordered cups to the same.

4*th.*—No swelling but in his legs; tongue clean and moist; skin cool; pulse soft and weak. Ordered a table-spoonful of infusion of digitalis.

5*th.*—Much the same; a considerable quantity of water passed from his bowels.

6*th.*—Little change; made water more than a dozen times.

7*th.*—Œdema of legs and feet diminishing; makes a great deal of urine; had a slight chill in the afternoon.

8*th.*—Apparently much improved; was removed to the clinical ward, which the nurse overheated. At night had considerable fever; pulse excited; skin hot and dry; pain in abdomen; tongue red and furred. Cups to abdomen; injection to open his bowels.

9*th.*—Bowels open; skin hot; tongue red and furred; pulse irritated and frequent. Ordered forty leeches to epigastrium; barley water for diet. Omit infusion of digitalis.

10*th.*—Tongue dry and furred; pulse frequent; skin cool.

11*th.*—Skin cool; tongue cleaner; makes a considerable quantity of water. Evening. Had a slight chill this morning, and is quite feverish to night.

12*th.*—Better; tongue cleaning; skin cool; pulse reduced. Soda powders.

13*th.*—No excitement; complains of uneasiness at night. Ordered fifty drops of laudanum.

14*th.*—Tongue clean; pulse soft; slept very well; makes water moderately.

16*th.*—Better this morning; tongue nearly clean; skin warm; pulse soft and weak; bowels open.

17*th*, 18*th.*—Tongue dry; pulse weak; skin natural; makes a considerable quantity of water.

19*th*,—Pulse more regular and stronger; tongue less dry; complains constantly of the increasing tension of his abdomen, which is chiefly caused by flatus.

21*st*, 22*d.*—Appears to improve; passed a good deal of urine.

25*th.*—Continues daily now to grow worse; has troublesome diarrhœa; tongue always florid, and frequently dry; begins also to vomit sometimes; pulse sometimes soft and weak, and at others very frequent and quick.

28*th.*—Worse; has been vomiting; tongue red and dry. Ordered cups to the epigastrium.

30*th.*—Mackin became so cold and weak this evening that it was necessary to give him some weak brandy and water.

December 1*st.*—Sinking. Ordered wine whey, and a blister to his chest. During the day he became speechless, and died about two o'clock in the morning.—Case reported by Dr. Jones, attached to the medical wards.

Mackin was examined on the 1st of December. Body emaciated; on opening the abdomen several gallons of water escaped, and the peritoneum exhibited an opaque colour. In the hypogastric region, the extremity of the omentum was attached to the peritoneum by an adventitious cellular membrane. This, with a considerable portion of the peritoneum and omentum, was very vascular, and beautifully injected with red blood. On opening the stomach, the mucous membrane of the cardiac extremity was vascular, and exhibited red injection in several places; that of the pylorus and duodenum was thickened and changed to a dark lead colour. The mucous membrane of the jejunum was thickened, that of the lower end of the ilium, and the whole tract of the colon was thickened, and when first opened black, having an appearance such as might be occasioned by charcoal worked up into the tissue; it faded by maceration to a slate colour. The liver was reduced to one-half the natural size, and very heavy. In its structure it was hard and granulated. The gall-bladder on being opened exhibited the mucous lining of a marbled appearance, spotted, with a greenish-black hue interspersed with small reddened tumours, which were inflamed follicles. The green colour penetrated the thickness of the membrane, and the surface beneath it.

Remarks.—The early history of this case is defective, and leaves

in doubt whether the irregular intermittent that occasionally was manifested after his admission, depended, as it so often does, on the chronic gastro-enteritic irritations under which Mackin unquestionably laboured, and of which it was an effect; or whether it had commenced as intermittents commonly do, and to which the chronic irritations had supervened.

This case affords another evidence to the fact of peritoneal effusion accompanying chronic inflammation of the *alimentary mucous tissue.* In this instance, peritoneal inflammation was designated in the adhesions and highly vascular state of the new-formed membranes, as well as of the peritoneum in the hypogastric region.

At no time was the accumulation of fluid in the abdomen so great as to occasion inconvenience, or to interfere with the healthy functions. The distress suffered, and derangement of function experienced, emanated from the inflammation of the digestive and intestinal mucous membrane. When it existed in a certain intensity, paroxysmal fever was present; as soon as local depletion and regimen had reduced its intensity, an improvement was manifested. Even the dropsical effusion had disappeared. The expression of the face, which was haggard, the constantly arid tongue, with the vivid circulation of the capillaries of its mucous covering, and the defect of nutrition, spoke too plain a language to permit the apparent amendment to impose on us a belief of a recovery. They too clearly indicated a change in the structure of the alimentary mucous tissue deranging its important functions, and under which the whole fabric gradually deteriorates and decays. It is not the effusion of the serous fluid into the cavities that constitutes the essential feature of the disease in dropsy, or that threatens in most instances the life of the patient; it is the inflammations of which the effusion is the effect or consequence; and the alteration of structure induced by them that forms the real difficulty for the treatment of the disease, and the preservation of existence.

Case V.—*Ascites and Anasarca.* Mary Kremer, aged thirty-four years, a married woman of temperate habits, admitted into the house 25th August, 1828. Has been unwell two weeks. She was attacked with intermittent fever of the tertian type; on three successive days she took large doses of salts and about a week afterwards became affected with uterine hæmorrhage, accompanied with fever, which continued for three weeks after her admission into the house. The catamenia had been suppressed by exposure to cold, about two months anterior to the appearance of the flooding. A previous attack of

chills and fevers had caused an enlargement of her spleen which had existed about two years.

On her admission she was feverish, complained of pain in the hypogastric region, with constant hæmorrhage from the uterus; she was bled several times, and cupped frequently on the hypogastric region. After these expedients the hæmorrhage ceased, but anasarca and ascites ensued, and increased to so great a degree as to occasion difficulty of breathing, inability to lie down, and every appearance of a speedy dissolution. Punctures of the legs and thighs were resorted to, and a large quantity of water was thus evacuated, from which the patient experienced much relief. The cupping was continued, and when the pulse was properly reduced, no symptoms manifesting irritation of the mucous membrane of the alimentary canal, the administration of the following pills was commenced: ℞. Pulv. scill. grs. v. fol. dig. grs. viii. divided into pills of two grains each; a pill three times a day.

The secretion of urine became in a short time more copious, and the swelling sensibly diminished. Her diet was restricted; and her ordinary drink was the infusion of juniper berries and cremor tartar, which proved sufficient to retain her bowels gently open. The inflammation of the spleen was treated by frequent topical depletion when the pulse appeared to demand it.

November 16*th.*—At night, owing to indulgence in improper diet, her pulse became greatly excited; she had head-ache and a high fever. She was bled to ℥xxx. and her diet reduced to barley and gum-water.

18*th.*—Diet increased to mush and milk, with a small portion of chicken soup.

The patient rapidly improved; her appetite became good; she urinated freely; the anasarca gradually declined, and the effusion into the abdomen in a great measure disappeared.

December 17*th.*—Kremer remains in the ward without a single dropsical symptom since last report. Her health is as good as it has been for some years, and she is employed in sewing, and other light work. Case recorded by Dr. Hunt, resident physician.

Remarks.—The report of this case is not as full as could be desired, but it is sufficient to prove that Kremer was the subject of extensive local inflammations, preceding the dropsical effusion. When this state existed in its fullest extent, from the disheartening results of the former practice by hydragogue cathartics, they were not resorted to; and general and local depletions with restricted diet were principally relied on.

The condition of this woman appeared utterly hopeless, and no ex-

pectation of a recovery was entertained. The abdomen was very much distended, anasarca prevailed to an extreme degree, and for more than two weeks she was propped up in bed, unable to assume the recumbent posture.

The distention of the lower extremities was so great, numerous punctures were made into the skin, from which the effused fluid continued to discharge for ten days or more; the extremities were reduced to their natural size, and at the same time the swelling of the abdomen diminished.

From the history of this case, depletion with regimen appears to have subdued the inflammations of the digestive organs, of the spleen and uterus, which had given rise to the dropsical effusions, and which have not again recurred.

Case VI.—*Malignant Intermittent. Nov. 4th.*—Charles Cavenaugh, ætat twenty-two, was admitted about twelve o'clock, reporting that he had intermittent fever. He had been engaged during the summer at work on the canal at the Juniata, where he had contracted the disease; and of a gang of three hundred who left the city, he stated more than half were dead. It was originally tertian: for the last week it had assumed the quotidian type, coming on at two o'clock. This change has been effected by fatigue in travelling from the Juniata. Habits intemperate.

When the chill was subsiding about two o'clock to-day, the fever commenced with the sensation of a violent blow upon the forehead, and immediately he jumped from his bed, and ran about the ward with the wildness of maniacal delirium. Being overtaken and replaced, he appeared ignorant, on becoming better, that he had left his bed. At this period he was found labouring under a most violent excitement; he appeared almost distracted with the pain in his head; his respiration was exceedingly laborious; the skin very hot; and the pulse full, strong, and frequent; ℥xij. of blood were immediately taken from his arm, and in a few minutes after he was completely relieved. 7 P. M. asleep, with his head covered; woke up alarmed; skin very hot; pulse full and frequent.

5th.—Better this morning; the intermission is not complete; skin hot; pulse frequent; tongue moist and furred; eyes injected and jaundiced; absolute diet; hot revulsives to anticipate chill; the paroxysm in the afternoon was nearly as violent as that of yesterday; required two men to hold him in bed; his spleen was so engorged that it rose in a large ball under the hand; having some tenderness at the epigastrium, and a dry, furred tongue, he was ordered to be cupped freely.

6th.—A tolerable intermission early this morning; tongue nearly clean. Ordered to take in solution a grain of sulphate of quinine every hour. Paroxysm came on an hour and a half earlier to-day; not so violent; mustard plasters were applied to his extremities when the chill threatened; tongue very much furred in the evening. Ordered cups again to epigastrium.

7th.—His stomach still irritable; tongue foul; omit quinine; sinapisms when chill threatens. 9 P. M. Had no paroxysm this day.

Discharged well, having had no return.—Case reported by Dr. Jones.

Remarks.—This case was an intermittent of malignant character, threatening apoplexy in the paroxysm. The intemperate habits of this man, it is most probable, gave to his brain the predisposition which invested its sympathetic irritation when, in the febrile stage, it began to be irradiated from the stomach, with its extreme intensity.

A full bleeding immediately arrested the violence of the cerebral irritation, and diminished the congestion of the brain. The same remedy would have been more freely urged, but for the habits of the patient, which always counter-indicate the very liberal employment of the lancet. The intemperate are very soon prostrated by general bleeding, and when they once begin to sink, it is almost impossible to re-excite them. This is one of the causes that render inflammations, and diseases requiring free depletion in their treatment, so generally fatal in those who abuse the employment of ardent spirits. They will not bear the treatment which can alone cure them.

A circumstance in this case to be remarked, is the extraordinary suddenness with which the cerebral irritation commenced, and consequent raptus of blood to the brain. Cavenaugh insisted on it, he had received a blow, and for a time was unconscious of his situation. In this case is presented the mode in which apoplexies are induced, and which so commonly derive the cerebral irritation on which they depend, from gastric irritation.

It is also to be observed that the sulphate of quinine was not tolerated by the stomach, the irritation of which it augmented, and that the cure was effected chiefly by attacking the gastric irritation, by low diet, cooling demulcent drinks, and local depletion.

Case VII.—*Malignant Intermittent, with Gangrene of Right Lung.* —— Fin, an Irishman, aged twenty-three years, admitted into men's clinical ward, September 22d, 1828. Habits of excessive intemperance; was reported to have had intermittent of tertian type,

for several days previous to his entrance into the ward, but no account of the treatment.

On admission, at six in the evening, he was in a paroxysm; the force of which was sustained by the brain. The symptoms were hot skin; pulse full, frequent, and soft; head hotter than the body; face turgid and flushed; eyes rolled up in their sockets, watery; gnashes his teeth; speechless; insensible to surrounding objects; cannot be roused; appears to have but little sensation when pinched on the extremities; pressure on epigastrium produced contortions of the face, and marks of pain.

The head was enveloped in cloths dipped in cold water; the arms were sponged with cold water; hot applications to legs; cups to the epigastrium; and fomentations of tepid flaxseed mucilage to the abdomen; when the heat of the surface was somewhat reduced: at 9 P. M. moveable sinapisms were applied to the extremities, and cups to the back of the neck; bowels opened by irritating injection; cold barley-water for drink.

23*d*.—Condition entirely changed; countenance composed; eyes natural, perfectly sensible; skin moist, and of natural temperature; tongue tremulous, covered with yellowish fur; pulse soft and regular; no pain of head. Treatment continued, with exception of sponging. Paroxysm commenced at noon with chill and vomiting; became insensible; eyes wild in expression, and rolling in their sockets; carotids pulsated with force; face did not flush, or skin become as hot as yesterday. Same treatment continued, with calomel gr. xx. succeeded by soda powders; pulse 90 and full, but without force; cups applied to epigastrium; bowels were freely opened.

24*th*.—Apyrexia in morning; quite sensible; skin moist and natural; tongue moist and furred, but disposed to clean off; pulse 80, full; complains of pain in abdomen, and lies with legs drawn up to relieve pressure, by relaxing the abdominal muscles; 80 leeches were applied to abdomen; gum-water for sole nutriment. At noon no paroxysm; pulse reduced by leeching; skin cool; sinapisms to extremities with a view to prevent the cold stage. Paroxysm attacked in the evening with usual cerebral disorder, but less intense. Same treatment.

25*th*—Apyrexia again complete; sulph. quinine gr. ii. every hour, to be omitted should paroxysm return; blisters to legs in order to excite a more durable impression; the lower extremities to be wrapped in blankets, wrung out of hot water, to be renewed as they lose their temperature; hot bricks to feet, and cold applications to the head. Perspirations was excited by the remedies, and the pa-

roxysm in the evening consisted merely in slight delirium, with a wild expression of the eye.

26*th.*—Much improved; tongue cleaning; skin moist and natural; chicken soup, with milk and water for drink; at twelve o'clock injection of laudanum to prevent formation of chill. Evening. Paroxysm lighter than that of yesterday; bowels opened by an injection.

27*th.*—Slept well; diet the same; no paroxysm to-day.

28*th.*—Rested well; apyrexia; stomach sick towards evening; suspend sulph. quinine.

29*th.*—Had a good night; tongue cleaning; pulse good; renew sulph. quinine; diet, beef tea and gruel; bowels regular.

30*th.*—Convalescent; breast of chicken; sulph. quinine omitted.

October 1*st.*—Improving.

2*d* and 3*d.*—Appeared to be convalescent.

4*th.*—Feverish, but had no chill; discovered a large sloughing ulcer on the sacrum; poultice applied, and relieved the pressure; fever declined towards evening.

5*th.*—Slight fever in morning; spts. mindereri ℥ii. every hour in mucilage; fever increased towards noon.

6*th*—Has cough and soreness of chest; pulse 115; skin hot; bowels open; tongue furred and tumid, but not red; cough increased, with increased force of pulse at night; venesection ℥viii. and cups over epigastrium; diet, barley-water.

7*th.*—Blood drawn was buffed; cough lessened; pulse reduced, soft; bowels moved three times; spts. mindereri continued, and brown mixture.

8*th.*—Cough more severe; expectorates puruloid mucus. Examined with the stethoscope; respiration was natural in left lung; no vesicular respiration in right, but sound of tracheal respiration was distinguished; cannot make a full inhalation, as it excites pain which is referred to epigastrium; pulse soft; breath excessively fetid; bowels regular.

Though he has been much exposed to the weather before his attacks, he has not previously had any cough; cups freely applied over the right side of the thorax. Evening. Very slight fever; hoarseness; cough troublesome; sputa exceedingly offensive, and have suddenly become of dark brown; at first the colour was supposed to be caused by the expectorant he was using. The chest again examined, gave indication of natural respiration in left lung, with absence of respiration in the right, and some mucous rattle.

9*th.*—Same state; treatment continued.

10*th.*—Cough violent; respiration hurried; breath has gangrenous

odour; bowels open; cups to chest; anodyne and spts. mindereri; cough abated after cupping; venesection ℥vi. and omit spts. mindereri.

11*th.*—Cough diminished; respiration more natural; no fever; tongue clean; pulse soft, frequent; blister over right side of chest.

12*th.*—No change.

13*th.*—Same state; no fever; expectoration dark bloody appearance, and exceedingly offensive; blister drew well; bowels open.

15*th.*—No change until to-day, when pulse became very feeble; mind wandering, and surface covered with sweat. Brandy toddy and volatile julep administered with generous diet; appetite good.

16*th.*—Has no pain; believes he would be well if it were not for the cough; it is very troublesome; face pallid, and covered with sweat. Treatment continued.

17*th.*—Grows worse; respiration short and hurried; pulse excited by stimulants, and skin becoming hot; desires cold drinks; face pallid; lips blue.

18*th.*—Expectoration became more bloody, and at noon hæmorrhage from the lungs ensued, which appeared to suffocate him, as he could not expectorate it with sufficient rapidity.—Case reported by Dr. Ashmead, resident physician, who made the autopsis.

The left lung was natural; the right lung was solid; the vesicular structure destroyed from pneumonic inflammation, advanced to the second and third stages, with a large gangrenous excavation. The notes of the dissection were mislaid by Dr. A. before they were recorded, which renders it less minute and specific than it ought to be to prove perfectly satisfactory.

Remarks.—Fin's case offers another example of the malignant intermittent type, or what may probably be named an intermittent coma; each paroxysm producing the degree of cerebral irritation and congestion, on which that state depends. General depletion would have been adopted in the paroxysm, had not this individual been excessively addicted to the intemperate use of ardent spirits; we were compelled to rely on cold to the head, revulsives to attract the circulation from the brain, and local depletion. To prevent the formation of the paroxysm, and to give another direction to the capillary excitement than to the brain, irritations on the skin and extremities were made to precede the chill. When these means had accomplished the objects intended, and the local irritations that could be detected were removed, the sulph. quinine completed the task and confirmed the organs in their natural state.

The inquiry remains to be determined as to the period when the

pneumonic inflammation under which the patient succumbed, or rather its consequences, first commenced. Did it exist during the period of the intermittent, or was it contracted subsequently? The last supposition is not probable. He was in a comfortable ward, had not left his bed, and was not exposed to any of the common exciting causes of that disease; neither were any symptoms displayed, such as usually announce the invasion of pneumonia. Besides, when the cough attracted attention to the chest, the examination with the stethoscope made known the fact that the right lung had already passed the first stage, and had advanced into the second stage of the disease.

I am rather disposed to believe that the inflammation of the lung had either commenced with the invasion of the intermittent, or that the lung, from some previous attack, had become hepatized, and the intermittent, by exciting new irritation, had hurried on the termination in gangrene. On either of these suppositions, the pneumonic symptoms were suppressed for the time, by the more violent cerebral disturbance and gastric irritation, but became unmasked as those declined in intensity. When an organ or tissue has suffered in its structure from inflammation, has become hardened, indurated, or hepatized, new inflammation excited in it, most generally proceeds rapidly to the production of disorganization, and gangrene is a usual consequence under such circumstances.

Case VIII.—*Chronic Intermittent.* Arthur Murphy, ætat 21, admitted November 21st, with an intermittent, under which he has suffered for more than a year. His last attack has been a violent quotidian every day this week. The paroxysm appears at 10, P. M. with a violent head-ache and delirium; tongue furred and disposed to dry; pulse full and frequent. Diet.

22*d.*—Escaped a paroxysm last night.

23*d.*—Had a chill at ten last night, succeeded by fever, which was attended with severe head-ache; tongue cleaning; pulse full and frequent.

24*th.*—Had an attack of the same kind last evening; tongue cleaned. Ordered, pill sulph. quin. gr. i. every hour.

25*th.*—A similar attack last evening; has some head-ache this morning, with a hot skin, and full, strong pulse. Ordered venesection ℥xii.

26*th.*—No chill last night; much better this morning.

27*th.*—Better; no chill last night. Piperine, gr. i. added to the sulph. quinæ.

28*th.*—Continues to improve; no chill last evening.

29*th.*—Better; no chill or fever.

December 1*st.*—This man has had no chill since; improves every day in appearance; is now on full diet; and in a few days will be sent out of the house. Case reported by Dr. Jones, resident physician.

Remarks.—This was a case of chronic intermittent, unattended with inveterate local inflammations, as most of the intermittents of the winter season, that enter our infirmary, usually are, and which render their cure so very difficult to accomplish. It serves to illustrate the advantages of blood-letting and restricted regimen in these cases, in the immediate check put to it by the detraction of blood.

Case IX.—*Intermittent, with Cardiac Irritation.* Edward Carberry, ætat 34, since August last has been ill most of the time with intermittent fever. This man has experienced it sometimes of the tertian, at others of the quotidian type, and latterly has a paroxysm about once a week. He entered the medical wards, November 25th, with pains in his head and breast, considerable heat of the surface, a flushed countenance, and a full, frequent, and strong pulse. Says that during the paroxysm of intermittent, he suffered a great deal in his head and chest. He has been purged a great many times with calomel and jalap, while treated out of the house. Considerable infiltration into the general cellular tissue is present, and the scrotum especially is very much enlarged. Ordered venesection and absolute diet.

26*th.*—Was bled yesterday to ℥xij.; felt at that time relieved; last night he had a chill followed by fever; this morning tongue clean; complains of pain in his chest. Cups were directed to be applied.

27*th.*—On examining his chest with the stethoscope, the impulse and sound of the heart on the left of the sternum is greater and more extended than natural; under the sternum, and to the right, the impulse is considerable, and the sound can be heard all over the right side of the chest. He says now, that during the paroxysm of intermittent, he has always suffered with great oppression and palpitation about his heart, and an equal difficulty of breathing. He wakes often during the night, with a sense of suffocation, and has to sit up in his bed. He was ordered to be cupped immediately on the region of the heart.

28*th.*—The last cupping brought down his pulse completely; it is now full and soft; skin warm and moist; tongue clean. Sulph. quinine, gr. i. every hour.

29*th.*—The action of his heart has greatly diminished, so that the excess of sound or impulse is much less perceptible; his pulse is full

without force, and less frequent; he slept last night better than he has done for some time, and was not once disturbed with a sense of suffocation.

December 2d.—Carberry is now convalescent; the anasarca has deserted him, and the scrotum is almost reduced to the natural size; he has had no chill since the evening of the 25th ult.; the action of his heart is almost natural, and he sleeps undisturbed. Discharged well. Case reported by Dr. Jones.

Remarks.—In this case, intermittent irritation, or what is probable, inflammation of the heart, a very common consequence of the intermittent paroxysms, had become developed. From the state of the pulse and the pains in the chest, Dr. Jones, who had charge of the ward, and is one of the few gentlemen who have availed themselves of the opportunity presented by the practice of this establishment to familiarize themselves with the use of the stethoscope, made an exploration of the thorax, and determined immediately the cause of the symptoms of which he complained. The cupping directed by Dr. J. to the cardiac region, had an immediate effect in abating the irritation of the heart, and convalescence was at once established. The quinine in this case was prescribed more with a view to guard against the consequences that might result from the habits of the patient, who was intemperate, than on account of the intermittent type of the disease; that would fall of itself, when the local irritations maintaining it were dissipated.

Case X.—*Intermittent Fever with Gastritis.* Mary Ann Jacobs, aged thirty-five years, a married woman of good habits, has had for a year or two past pain in her chest with cough, and complicated for six months with intermittent fever. She was treated, previous to her admission into the house, for the intermittent fever for some time, with bark, wine, &c. without success. She states, that three months ago her husband, while in a state of drunkenness, threw her down, and stamped on her breast and abdomen, since which she has suffered under almost daily paroxysms of the most acute lancinating pain, which is aggravated during the chill. She has been cupped, and had blisters and fomentations applied without any other than slight temporary relief. Admitted into women's clinical ward, October 29th, 1828. No regular record of the symptoms was kept during the first four days. From that date to November 3d, she was several times bled and cupped. Had a paroxysm of intermittent fever on the third.

November 4th.—Passed a very restless night; sleep was altogether

precluded by severe pain in the stomach, accompanied with sickness. There is tenderness of the whole abdomen, with flaccidity of the abdominal muscles; bowels open once a day; very little pain in the head; skin warm and dry; tongue moist, covered with a light white fur, except at the point, which is clean, and somewhat red; pulse full, strong, and frequent. Ordered venesection ℥xij.; barley water and lemonade for sole diet and drink. Afternoon, half-past 3 o'clock. Had a chill about noon, and now suffers excruciating pain, which she refers to the scorbiculis cordis; has tenderness of the abdomen; skin cool, and rather pale; tongue dryish; pulse frequent, not very strong. Leeches ordered, but could not be procured, and cups were applied to the epigastrium, followed by fomentations.

5th.—Passed a good night; pain to-day not so great; tongue red, and covered with light fur, indented by the teeth; nausea; pulse frequent, (112,) tense and quick; blood drawn yesterday cupped and buffed. Ordered venesection; (the abstraction of ℥xix. induced syncope;) eighty leeches were subsequently applied to abdomen; fomentations and hot foot-baths.

6th.—Much better; no pain, and less tenderness. She had no chill or fever yesterday; no nausea since the leeching; skin is in good condition; tongue much more natural; pulse frequent, of more volume, quick, and somewhat tense: blood taken yesterday coagulated with firmness. Ordered venesection ℥xvi. and hot foot-bath: continue absolute diet. Afternoon. Pulse rising. Ordered eighty leeches to abdomen, to be followed by fomentations.

7th.—Still better; no chill yesterday; skin soft and pleasant; pulse frequent, of good volume, compressible, and slightly tense; bowels open daily: blood of yesterday inflammatory. Ordered fomentations to abdomen, and hot foot-bath.

8th.—Improved; the following liniment directed to be rubbed tepid on the abdomen four times a day:—R. Spts. camph. ℥iv.—spts. terebin. ℥i.—aq. ammon., tr. theb. aa ℥ss.—ol. oliv. ℥ij.—M. ft. lin. Allow a few table-spoonsful of soup daily.

11th.—She has some pain in the head; slight tenderness of the abdomen; skin perspirable; tongue natural; bowels regular; pulse 112, somewhat tense, and of good volume. She was directed to take calomel, grs. ix.

12th.—Suffers under more pain than she has lately felt; skin preternaturally warm; tongue good; pulse 104, quick and tense; bowels opened once yesterday. Directions were given to restrict her diet to barley-water. Evening. Still refers to the scrobiculus cordis as the

seat of pain, which is now sharp, lancinating, and increased in degree. Eight cups were applied to the epigastrium.

13*th.*—Suffers less, though she is incommoded by the eructation of an acid gas; bowels open seven or eight times in the course of the night; pulse less tense; skin and tongue natural. Fomentations and hot pediluvium.

14*th.*—Improving; bowels open three times yesterday, but not once during the night. Allow a small quantity of chocolate deprived of its oil.

20*th.*—She has been mending, and employed in nursing a child in the ward for two days past in the enjoyment of tolerable health. She has, as articles of diet, in addition to the chocolate, Indian gruel and milk and an egg. She still has a slight cough, but the stethoscope exhibits a perfectly healthy state of the lungs.

21*st.*—She is troubled with occasional returns of slight pain. Ordered to rub the tartar emetic ointment over her stomach twice a day.

23*d.*—The ointment has produced a copious crop of pustules. Although she was unwilling to submit to the remedy, she states, that it "scattered" the pain almost immediately.

December 18*th.*—Has been engaged as an assistant in the ward since last report, without a return of the intermittent, and makes but slight complaint of the pains she suffered in her stomach. Is allowed animal food: she has acquired flesh, and her complexion is greatly improved. Case reported by Dr. Hunt, who had charge of the ward.

Remarks.—In the treatment of intermittent fever, the type of the disease should not be attended to while the symptoms of local inflammations are strongly marked. They are of the most importance, and no permanent impression can be made on the disease until the local affections are subdued. This precept is universal, not only as it respects chronic, but also acute or recent intermittents. The febrile paroxysms, notwithstanding their periodical character, are as much sympathetic, and as clearly emanate from the local irritations as are continued and inflammatory fevers, that are unequivocally the product of topical inflammation. The simple removal of the local affection is, very frequently, all that is necessary to dissipate the periodical febrile disturbance; but when they are removed, the cinchona and its preparations, that were previously impotent, are now remedies of almost specific certainty in arresting and preventing the recurrence of the febrile paroxysms.

The case of Jacobs is a striking exemplification of the correctness

of the preceding observations. Before her admission she had been treated for the intermittent type by cinchona, wine, and other similar means usually resorted to for the cure of intermittent; and the local inflammation, (gastritis, and it is possible a limited peritonitis,) were disregarded. Failure and defeat were the consequence. The intermittent proved intractable; the woman's sufferings increased, her general health was rapidly deteriorating, and she was compelled to seek refuge in our wards.

As soon as she came under the treatment of this establishment, a reverse system to that which had proved, not merely inefficient but mischievous, was instituted. It was the intermittent that was disregarded; while the local inflammations, previously neglected, were attacked with energy, and without intermission, by the most direct and effective measures. Exactly in proportion as the local diseases were abated, did the intermittent paroxysms decline, and finally disappear; and since they have been completely subdued, vigorous nutrition has been restored with every sign of health.

Case XI.—*Gastro-entero-pneumonitis, with Cerebral Congestion.* Samuel Robinson, ætat twenty-five, entered the medical wards on the 26th of November. He was taken up by the police that morning, from the street, where he had lain during the night, and brought into the house almost insensible. His lips, gums, and tongue were covered with a thick crust of blood, which was constantly oozing out of them, as well as from the nostrils; face of bronze colour; the skin was hot and dry; pulse full, with little force; the epigastrium sensible to pressure; breathing was laborious, the inspirations being short, and followed by a groan. He was directed to have cups applied to the epigastrium, and an injection to open his bowels.

27*th.*—More intelligent, and gave some account of himself; he had been a cook on board some of the small craft in the river; had taken cold, and been troubled with a cough and difficulty of breathing for more than a week; acknowledges he is very intemperate; the epigastrium continues tender; the other symptoms remain the same. Bowels were opened by the injection. He was again cupped to the epigastrium and lower portion of chest. In the afternoon he appeared improving in some respects, and thought himself well. As his respiration improved very little, the thorax was explored; the respiration was obscure, and presented the crepitating rattle in both sides. He was ordered to be cupped freely to his chest. Cold has been kept constantly applied to his head.

28*th.*—More lively this morning; sensation more acute; feels that

he is unwell; exudation of blood continues from gums, lip, and tongue, which are incrusted with it; great tenderness at the epigastrium; skin hot and dry; breathing much improved. Ordered sixty leeches to the epigastrium; cold injections and tepid emollients to his abdomen; hot fomentations to his feet and legs.

29*th.*—In some respects improved; more intelligent; tongue and lips less incrusted with blood; pulse stronger and less frequent; skin moist, yet rather hot; bowels open several times this morning; he was directed to be dry-cupped over the chest; became excited during the operation, and had scarified cups applied, which drew about ℥ij. of blood. His breathing was much relieved, and his face lost immediately its dark red hue.

30*th.*—Took fifteen drops of laudanum last evening, and slept several hours; tongue less incrusted, and not as dry; breathes easier; pulse remains the same, (132,) varying in fulness and force, according to the difficulty of his respiration; cups were again applied to the chest, and about ℥iij. of blood were procured.

December 1*st.*—Breathes easier; took fifteen drops of laudanum, and slept all night; tongue moist, and cleaning from the edges; pulse fallen to 118, and not quite so strong; skin warm; a blister directed to each side of the chest.

2*d.*—Took laudanum and slept well; blisters drew well; skin natural, in the afternoon perspirable; bowels open; diet chicken water; expectoration commencing; rattle less crepitating, and more mucous. Ordered to take two grains of blue pill, and one fourth of a grain of opium every three hours.

3*d.*—Still improving; bowels open once yesterday; skin natural in temperature; perspired considerably last evening; pulse weaker; to have sago to-day in addition to his chicken water; tongue nearly clean and moist.

15*th.*—Continued to gather strength, and is now walking about the ward; convalescent; diet nearly full.

Remarks.—By the nosologists, this case would have been called typhus fever, by some practitioners congestive fever, and by others, typhoid pneumonia. Robinson had been affected with cough and difficult respiration, previous to the night he was exposed to the weather.

Cold acting on the surface, diminishes the action of the cuticular capillary circulation; it is struck with torpor; the blood thus repelled, or what is the same thing, no longer called into this extensive surface, the effect of its diminished actions, must be disposed of in some other tissues, in which it accumulates in excess, and thus congestions are established.

When any organs or tissues are the seats of morbid irritations, or by former habits, are constantly maintained in unnatural excitement, the reflux from the surface is attracted to them in preference to any others; for irritation in an organ is like magnetic power, always drawing towards itself the circulating fluid. But the irritation is augmented by this increased afflux of blood, and instead of simple congestion, which would have been formed in a healthy individual, or in one of sober habits, there is lighted up intense and disorganizing inflammations.

Robinson, it is presumable, had already been attacked with pneumonic inflammation, when he was subjected to the exposure mentioned, and from his excessive potations, must have had his stomach and brain in an irritated state. These were the organs that were the principal sufferers when he was admitted, together with the mucous tissue of the superior aerial, and digestive passages. The increased quantity of the circulating fluid thrown into these organs, had carried their irritations up to active inflammations, with deterioration of function; hence the difficult, embarrassed respiration, accompanied with groans, the language of pain; hence the sensibility of the epigastrium, and general pain that pressure excited in the abdomen, which called for local depletions, the mucilaginous fomentations and cold injections; hence the coma and diminished sensibility which made him at first scarcely conscious of his illness, but of which he became sensible as the cerebral functions were more fully exercised.

Had the typhoid symptoms been permitted to govern the treatment of this case, without a reference to the pathological condition of the organs; or the name typhus, which few would have hesitated to pronounce in reference to it, been suffered to have possessed any weight, and a stimulating practice been pursued; I have no hesitation in believing, from what I have witnessed in the former practice of this establishment, that a most formidable and disastrous train of symptoms, stamped with true malignancy, would have been generated, with a fatal issue to the patient.

Equally unfavourable would it have been to have looked upon this case, with the Armstrong school, as one of congestive fever, in which the accumulated fluids were to be unlocked by general depletion and the liberal exhibition of calomel.

General depletion, when extensive inflammations have become radicated, debilitates the healthy tissues and organs, which have already necessarily a tendency to asthenia from the abstraction of their forces and fluids in favour of the diseased organs by the morbid irritation going on, infinitely more than it diminishes the too great

energy of the inflammatory actions, and thus the economy is crippled in its only certain means of defence, and deprived of its most effective powers of restoration.

The actions of diseased organs are to be opposed most successfully, by rousing up and antagonizing against them the actions of the organs or tissues that have not partaken of the morbid condition, it is intended to relieve. By rallying to them the forces and the fluids overwhelming the diseased organs, the most efficient diversion in their favour it is possible to obtain by art, is then accomplished, and the natural balance of power and action between the organs, overthrown by the disease, is restored to its legitimate order, if restoration be any longer a measure in the range of possibilities. But for the attainment of this object, the healthy organs, the field of our operations, must have power; should they be disabled and impotent, from their feebleness, to have excited in them actions of an intensity sufficient to make a decided impression on the economy, this recuperative operation will prove abortive.

General depletion, in fevers, is the remedy to arrest the too inordinate actions of the central organ of the circulation, when its disordered functions threaten to extend their disturbance into the functions of organs unassailed by disease. When this duty is performed, it promises no further advantage; it will not cure, of itself, the disorganizing inflammations seated in the minute and intimate structure and capillary vessels of the organs. Besides, its influence cannot be limited to the diseased organs; it strikes equally those that are sound; and on the diversion effected by their actions, brought about by nature, or established by art, depends the safety of the patient. General bleeding does not co-operate, on the side of the economy, in opposition to the disease by which it is invaded; both equally feel its effects; they are weakened, but their relative positions are the same, and no advance has been made towards removing the disseverance of the natural sympathetic connexions of the organs, and a restoration of the balance of their actions, in which health consists.

The lancet, a remedy admirable, prompt, and powerful, when directed on sound principles, pushed too far, and too exclusively relied on, has been a weapon of destruction, fatal to the lives of thousands. It was the conviction of the injurious results attending on its free employment, that some years past produced the re-action which took place, when, for a period, it was as much denounced as it had been a short time before extolled; the use of this means even fell into perfect discredit, and running into the opposite extreme, the diseases which profuse general depletion had failed to cure, were, on that ground,

subjected to a treatment truly incendiary, and not less hostile to the recuperative operations of the economy.

The principles precedingly indicated, are those on which this case was treated, and on which all those exhibiting similar organic and functional lesions are managed in the wards whilst under our charge. It is not only the greater certainty attending this system which commands for it a preference, but the promptness with which symptoms of a very unfavourable aspect disappear; and of which this case of Robinson presents a striking instance.

Case XII.—*Pleuro-pneumonia with Gastro-splenitis.* Mansfield, aged thirty-five years, of intemperate habits, was admitted into the clinical ward on the 10th of December.

History.—On last Saturday, (6th,) he fell on his left side, and shortly after was taken with a sensation of cramp in his chest, for which he took laudanum occasionally, with apparent relief; but feeling no permanent benefit, he came to this house. The symptoms on admission were; face of a dusky, bluish hue; breathing short; skin preternaturally warm; bowels open; great tenderness of epigastrium; coughs and expectorates a sanguinolent, viscid fluid; sound of lower part of the left side of the chest dull when percussed; no vesicular respiration; respiration in right lung natural, tongue inclined to be dry, covered with a heavy, yellow fur in centre; no head-ache, except a slight pain caused by coughing. Ordered cups to epigastrium and lower region of left side of thorax; hot fomentations to abdomen; and acidulated gum-water for drink and diet.

11*th.*—The tenderness of the epigastrium not altogether relieved; pulse frequent and tense. Ordered to repeat cups to the seat of pain. Evening. Relieved from pain; pulse still frequent, but reduced in force; tongue the same as yesterday; skin rather warm and moist; bowels open; takes flaxseed tea, with cream of tartar ʒij.—tart. antim. gr. ij. to the Oi. and continues the gum and barley water for diet.

12*th.*—Stomach very irritable, will not retain any thing, except in very small quantities; pulse quick, and rather frequent, 88 per minute, without much tension; tongue red at tip and edges, centre covered with yellow fur, and a great tendency to dryness; skin rather dry; omit flaxseed tea, and confine him exclusively upon gum and barley-water, and continue hot fomentations.

13*th.*—Worse this morning; prostration; great tenderness of the epigastrium; eyes injected; breathing short and frequent; pulse active, frequent, and rather tense; tongue very dry, incrusted with a brown

fur in centre, edges very florid; face flushed; skin rather warm; vesicular respiration on the right side, and on the left, bronchial mucous rattle; was ordered venesection ℥viii. but not more than ℥iv. could be taken, owing to the sinking of the pulse; eighty leeches were ordered to the epigastrium and lower part of his chest. Evening. Worse; is very restless; appears to be in great agony; pulse frequent and quick; tongue the same; guggling mucous rattle in both lungs. Opium gr. iv. and calomel gr. vi. every hour, and immediately an injection of sixty drops of laudanum, and to continue afterwards injections of brandy every hour; he continued to sink, and died about ten o'clock, P. M. Case reported by Dr. Clark.

Autopsy.—Examined next morning. Body not emaciated; face dark hue, from collection of venous blood. Thorax. The right lung collapsed, crepitating, contained in bronchial tubes some frothy mucus; the left lung did not collapse, felt solid; adhesion of pleural surfaces; when laid open, it presented the three stages of pneumonia; the superior part of the upper lobe was crepitating, more congested with blood than natural, and a watery mucus was contained in the small bronchi and vesicles; the middle of the lobe was hepatized, and the line separating the two stages was perfectly well defined; the bronchi contained a reddish, purulent fluid; the lower lobe was nearly disorganized—it was infiltrated with reddish, purulent matter, and the substance of the lung, though solid, softened down to such a degree as to tear, when slices were held up, by their own weight; the pericardium contained about ℥ii. of yellow serosity; the heart of usual size. In the pulmonary artery, its ramifications, and right ventricle, there existed a solid coagulum of fibrin, perfectly white, dense, and firm in consistency, and presenting a fibrous structure when torn, which required a considerable effort. It was very evident from its characters that this coagulum could not have been formed in the few hours since death, but must have existed some time previous thereto. A similar coagulum, quite free from colouring substance, but of much less consistency, was found in the left ventricle, and in the aorta; and which most probably was also formed previously to death. Abdomen. Liver natural; spleen very large, so much softened it tore to pieces in attempting to take it from its place, and would not bear its own weight. Stomach. In cardiac region mucous tissue reddened in stellated patches, which were permanent; the tissue, natural consistency and thickness, alimentary canal, no morbid appearances of consequence.

Remarks.—In this is presented a case of pneumonia advanced to the third degree, complicated with inflammation of the spleen, which had progressed to its last stage, and with gastritis. Mansfield,

extremely intemperate in his habits, like most of those individuals, could give but an imperfect account of the earlier periods of his disease, and it is doubtful whether it was caused by the fall and blow he received on the chest, or whether a chronic disease was only aggravated by that accident. Those who are habitually under the influence of liquor, have their sensibility so much blunted, they are often unconscious of the extent of disease under which their organs are suffering, until disorganization has taken place. I cannot but hesitate in believing that the hepatization of the middle portion of the left lung, and the softening of the lower half of the lung, had been effected in the short time from the accident to his admission.

The spleen in this case entered largely into the production of the morbid condition. The diagnostic signs of acute inflammation of the spleen, are not well established; it is not improbable that some of the pain referred to the epigastrium may have proceeded from this organ. The complications of this case do not permit any inferences to be drawn as to the symptoms which belonged to the inflammation of the spleen. The entire disorganization of this organ, it is probable, was more immediate in hastening the dissolution of the patient than the state of the left lung, as the right was fully adequate to the purposes of respiration, and I have seen patients survive a much longer period, with one lung as highly diseased as in the present instance.

The coagula, or polypus concretion in the heart and large vessels, I am disposed to regard as the more immediate cause of death in this case. This is not an uncommon circumstance; I have seen repeated instances of a similar kind. The cause of the formation of these coagula during life, is not known, but it frequently occurs in disease, and becomes the immediate cause of the fatal termination. The agony of Mansfield resembled that which attends dissolution from obstructions in the circulation of the heart, and the body had the same appearance as is presented by those who perish from that cause.

Case XIII.—*Gangrene of Right Lung.* Richard Harrison, aged forty-three years, was admitted on the 20th of November, in the cells with mania a potu, for which he was treated with the usual remedies, and entirely recovered. On the 26th, complained of pain in his right side; pulse frequent and tense; was ordered to be freely cupped over seat of pain. Next morning felt greatly relieved, but his eye being much inflamed, and having an ulcer on the cornea, he was ordered to the eye ward, where he was principally treated for that affection; the cups were repeated twice to his chest with advantage; he also made use of a common cough mixture, and drank freely of flaxseed tea, containing su-

pertart. of potash, ʒij.—tart. antim. gr. ij. His diet being gum-water and gruel. Becoming worse, he was removed into clinical ward.

December 12th.—On examination of his chest, percussion elicits a very flat sound all over the right side, and no respiration can be heard in that lung; he coughs very often, and brings up with difficulty a viscid, thick expectoration, some of which adheres to the vessel when reversed; tongue covered with a thick, dark fur; pulse frequent and irritated; bowels much disordered; abdomen tense; breath fetid. Ordered tinct. opii. ʒiv.—tart. acid. gr. xii.—water ʒij.—tea-spoonful occasionally. Evening. Much worse; cough almost constant. On examination, gangrene of the right lung suspected. Ordered opiates to be freely given.

13th.—Continues to sink; respiration can be heard all over the room; pulse very small and frequent; tongue very foul, and breath extremely fetid; diarrhœa has supervened; he continued to take opiates; but he gradually sunk, and died about 12 P. M.—Case reported by Dr. Clark.

Autopsy.—An examination was made of the body, but limited merely to the thorax, in order to determine the condition of the lungs. The left collapsed when the sternum was raised, and was perfectly natural in structure. The right exhibited the appearance of a soft, grumous mass, of black colour. No adhesions of the pleura existed. On attempting to remove the lung from the cavity it was ruptured, and the lower and middle lobes exhibited the semblance of a quantity of putrid coagulated blood, and exhaled a most offensive odour.

Remarks.—This case offers another instance of the extreme disorganization which may occur in the viscera of drunkards, without exhibiting premonitory symptoms to induce a suspicion of the intensity of the disease. Harrison was brought to the infirmary for the third or fourth time with mania a potu. At this period he had no cough of consequence, and attention was not directed to his thoracic organs. It is, notwithstanding, most probable, that he was then labouring under the pulmonary affection that terminated his existence. As the symptoms of mania subsided, some cough was noticed, but it could not have been urgent, as the resident physician did not direct my notice to it. Being transferred to the eye ward, he was not under the observation of the medical attendants, until he was brought into the clinical wards, two days previous to his death.

The affection of the right lung approaches in its anatomical characters to the uncircumscribed gangrene of Laennec, which he states "may be placed in the number of the most rare of the organic diseases." This morbid organic affection occurred but twice in the extensive researches of this eminent cultivator of pathological anatomy

in a space of twenty-four years; and but five or six instances of it had been met with in the hospitals of Paris.

At first it might be looked upon as pulmonary apoplexy; but this disease is always in circumscribed spaces of the lung, and is accompanied with profuse hæmoptoë, which in this was absent.

Table showing the Number of Persons admitted into the Medical Wards of the Infirmary of the Alms-house of the City and County of Philadelphia, and the Number of Deaths, between the 3d of December, 1827, and the 1st of December, 1828.

DATES OF ADMISSION.	MEN'S MEDICAL WARDS.		WOMEN'S MEDICAL WARDS.		CELLS.*	
	No. admitted.	Deaths.	No. admitted.	Deaths.	No. admitted.	Deaths.
From 1827, Dec. 3, to 1828, Jan. 7	149†	17	149‡	13	24§	1
To February 4 -	96	11	46	9	22	1
To March 3 - -	60	9	61	3	26	2
To April 7 - -	71	12	47	10	27	2
To May 5 - - -	46	9	55	4	33	1
To June 2 - -	76	8	46	9	30	2
To July 7 - - -	64	12	45	10	24	5
To August 4 - -	62	8	47	6	31	11
To September 1	100	10	64	10	19	4
To October 6 -	177	13	114	10	57	6
To November 3 -	145	7	88	6	24	6
To December 1 -	116	10	79	11	32	3
Totals - - - -	1162	126	841	101	349	44

Remaining Dec. 1st, 1828, in Men's Medical Wards, 54; in the Women's Medical Wards, 79; in the Cells, 11.

RECAPITULATION.

Treated in men's medical wards - - - - -	1162
Deaths - - - - - - - - - -	126
Per centage - - - - - - - - -	10.84
Treated in women's medical wards - - - - -	841
Deaths - - - - - - - - - -	101
Per centage - - - - - - - - -	12.
Treated in cells - - - - - - - - -	349
Deaths - - - - - - - - - -	44
Per centage - - - - - - - - -	12.6
Whole number of patients treated - - - - -	2352
Deaths - - - - - - - - - -	271
Per centage - - - - - - - - -	11.47

* Most of the patients in the cells are admitted for mania a potu.

† This number includes 88 in the wards, December 3d, 1827.

‡ This number includes 56 in the wards, December 3d, 1827.

§ This number includes 8 in the cells, December 3d, 1827.

ART. VI. *Case of Tetanus.—Respiration performed by one Lung, with Vigorous Nutrition and General Health.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania.

I WAS requested to visit Henry Davis, an apprentice to Mr. F. printer; Saturday, March 22d, 1828. About two weeks previous, while running through the yard, he struck his thigh against a splintered board projecting from a fence. A small superficial wound had been made in the skin, and had been dressed with adhesive plaster. On Monday, the 17th, he complained of a pain in his neck, and of sore throat, but continued to attend to his duties. Friday, 20th, was so much worse he was confined to bed. An emetic was given, and followed by a purge, which did not open the bowels: was very unwell during the night, and early in the morning calomel, grs. x. was administered.

This lad was twelve years of age, had enjoyed good health since he had been in the city, which was three years, and had walked from Pittsburgh to Philadelphia. He was well made, stout limbed, and active.

When I saw him first, I found him labouring under the opisthotonic form of tetanus. The jaws were firmly fixed, the head drawn back, the body forming an arch, the abdomen tense and hard, breath fetid. The wound in the thigh was very healthy in appearance, and had nearly cicatrized; it gave him no pain. I examined it well, but could find no splinters in it.

A tourniquet was applied round the thigh, above the wound, an injection given to open the bowels, and the spine directed to be covered the whole extent with leeches. A small number only could be obtained, the stock in the city having been nearly exhausted through the course of the winter's practice. Failing in the means to press this plan of treatment, the opiate method was adopted: two hundred drops were given, to be repeated every hour and a half, increasing fifty drops with each dose. The spasms continued to augment in intensity; the laudanum appeared to occasion no marked effect, except some confusion of intellect, but he constantly gave correct answers to questions. He expired at 9, P. M. having taken one thousand five hundred drops of laudanum since twelve o'clock.

Autopsy, eighteen hours after death, was performed the next day, by Doctor HORNER, Adjunct Professor of Anatomy, with his usual accuracy and minute observation.

The body was well proportioned, and rather large for the age of the individual; discoloration of back, sides, and neck, from settling of blood; muscles of extremities rigid, those of the neck relaxed; right side of the thorax, rounded, fuller and larger than the left, which was contracted.

The skin of the thigh, where the wound was situated, was dissected off. On the inner surface there was no mark of injury or appearance that the wound had extended through the skin. The fascia covering the muscles presented no alteration to the eye; when raised a small discoloured spot, the size of a pea, existed on the under surface, which was covered with fetid pus; the muscular fibres in immediate contact were hardened and inflamed, for about the space that might be covered by a sixpence. The fascia was separated into layers, and in its substance was found imbedded a small splinter of wood, an eighth of an inch in length, and two lines in width.

Brain.—The dura mater being raised, the veins were very turgid, and when the brain was removed, the blood ran freely from the vertebral veins and jugulars, when the head was pendent. The arachnoid was perfectly transparent, but remarkably arid; it felt as though it had been wiped with a dry cloth: this appearance particularly attracted the attention of Doctor Horner and myself; neither of us had met with it previously. The vessels of the pia mater were turgid and congested with blood.

The cortical substance of the brain was darker coloured than is common. The medullary substance exhibited numerous reddened spots, formed by oozing of blood from the extremities of divided vessels. It was very firm, not a particle of fluid was contained in any of the ventricles. The cerebellum and medulla oblongata offered no unusual appearances.

Spinal marrow.—The spinal canal was laid open to the last lumbar vertebra. The arachnoid and pia mater were natural in appearance; the vessels in the last very full of blood, but which might be attributed to the position of the body: no fluid existed in the canal. The spinal cord was removed and carefully examined; like the brain, it was uncommonly firm, but offered no positive pathological condition.

Thorax.—The heart was of natural size and consistency: all its cavities were empty, no coagula of blood in them. The right lung was very large, crepitating, in perfectly natural state as was also its investing serous covering. The left lung was compressed into a solid mass, about the size of the fist, but no otherwise changed in structure than what resulted from its condensed state; and the cavity which it

left, was filled with cellular tissue, apparently produced by lymph having been effused, and subsequently organised.

Abdomen.—Stomach and intestines, except lower portion of ileum which was contracted, distended with flatus. Stomach contained the fluids, and milk coagulated, he had drunk before death. It was very much distended; cardiac extremity, where the contents were principally contained, was of faint red colour; no injection of vessels; the mucous tissue of this portion softened so as to peel off by scratching it with the nail; in the other portions of the stomach it was whitish, thicker than is commonly seen, natural firmness. Small intestines contained no fæces; the mucous tissue of natural whitish colour and consistency: large intestines loaded with liquid, greenish fæces; the tissues of natural aspect.

The liver and spleen exhibited nothing different from their usual state.

Remarks.—A circumstance in this case, worthy of remark, is, that one lung alone performed the office of respiration, and was perfectly adequate to all the purposes of hæmatosis, and of healthy nutrition, and not incompatible with the possession of robust health. The period when he had suffered the attack of pluritis, from the effusion of which the left lung had been compressed, and had not again expanded, could not be ascertained. He had never spoken of any severe illness, previous to coming to the city, and he had enjoyed full health during the three years he had resided in Philadelphia.

The points in this case that invite attention, are, 1st. The wound was healthy and rapidly cicatrizing, and it is not presumable the irritation which excited the tetanic affection emanated from this source; 2d. The minute splinter in the fascia, around which unhealthy pus had been formed, it is probable was the point whence the irritation was transmitted to the spinal marrow; 3d. An unusual aridness of the arachnoides and firmness of the brain and spinal marrow, were the sole appearances that could be connected with the pathological state; and 4th. That a fatal tetanus may result from an irritation of the spinal marrow or brain, not sufficient to the excitation of inflammation or alteration of structure.

ART. VII. *On the Cornea, its Diseases, and their Treatment.* By ISAAC HAYS, M. D. one of the Surgeons of the Pennsylvania Infirmary for Diseases of the Eye and Ear.

THE impulse given to the study of pathology by BICHAT, and so successfully pursued by his followers, has not only entirely changed the character of this department of medicine, but imparted a new aspect to the whole science, which is no longer composed of departments, having no dependance or connexion with one another, but consists of a single structure, of which anatomy is the basis, and physiology, pathology, and therapeutics constitute the successive superstructures.

Pathology formerly consisted in little else than uncertain groups of symptoms, to designate which an endless variety of names were appropriated—for as these groups were founded on no certain bases, they were incessantly varying—new terms were necessarily required—no certainty could be attained in reference to the application of names previously given, and hence the inextricable confusion and absurdities of nosology.

Every disease must consist in organic derangement, and this may be considerable and irremediable—or such that the powers of the system are sufficient to effect restoration—or so trifling, as not to be cognisable to our senses—in this latter instance it has been considered as mere disorder of function, but erroneously, for it is impossible to conceive of any derangement of function without an equivalent alteration of structure. Modern or physiological pathology is based on these morbid changes; symptoms are viewed merely as referring to, or as the means of arriving at a knowledge of these derangements; and semeiology has become a subsidiary department of pathology. Certain assemblages of symptoms are no longer looked upon as a disease, but as "evidences of things unseen," by reasoning from which, we arrive at a knowledge of the disorganizations by which they are produced, and the disease itself is thus kept in view, and is a principal object, instead of the signals by which it is made known. Semeiology has become more certain and fixed, and pathology infinitely elevated in importance, since it forms the only true basis of therapeutics; an acquaintance with the precise nature of the derangements, and the manner in which they are effected, constituting an essential preliminary to a knowledge of the means of correcting them, the great end of the healing art.

No class of diseases were involved by the old pathological doctrines

in more utter and apparently inextricable confusion than those of the eye. So embarrassed were the descriptions of these affections, and so forbidding their nomenclature, that the medical student turned from the study of them in hopeless disgust, and for a long time their treatment was abandoned to itinerant practitioners. Physiological medicine has thrown a new light upon these complaints; some of the most distinguished men in the profession are engaged in their investigation, and ophthalmic diseases must soon be as thoroughly understood as those of any other organ.

In the Philadelphia Journal of the Medical and Physical Sciences we attempted to withdraw the diseases of the conjunctiva, sclerotica, and iris, from the obscurity in which they were involved, by applying to them the lights of physiological pathology; on the present occasion we propose making a similar attempt in relation to the affections of the cornea.

When it is considered that the integrity of this part is essential to the exercise of one of our most important senses—that its diseases illustrate those of vital organs, and which cannot during life be subjected to examination—and that the most erroneous ideas are entertained respecting its pathology,* though its situation and structure afford singular facilities for the study of its diseases—this essay, should we merely succeed in attracting attention to the subject, will not be without value.

The cornea consists of three distinct tissues; an external covering which is a continuation of the conjunctiva; its proper substance; and an internal lining membrane.

The conjunctival coat of the cornea is a mucous membrane, extremely delicate, transparent, colourless, devoid of epithelium, and, in a healthy state at least, exhibits no villi or follicles. It is abundantly supplied with blood-vessels, and is united to the subjacent cornea by a cellular tissue, which is too short to be demonstrated. From no villi or follicles being perceptible in it, and its acute inflammation usually terminating in effusion of lymph, as in serous tissues, it is regarded by some pathologists as belonging to this class, while others consider it a sero-mucous membrane. It certainly is more closely connected with its subjacent tissue than any other of its class, and suffers considerable modification of character; but we are inclined to consider it still as essentially a mucous membrane, lymph never being

* It has been gravely asserted by a distinguished surgeon of Edinburgh, in a paper only recently published, that ulcer of the cornea arising from gonorrhœa differs from that produced by any other cause, and may be distinguished by its *shape*. We may safely leave the refutation of this absurdity to the good sense of our readers.

poured out from its free surface as in serous tissues, but always in its substance, or into the subjacent cellular tissue.*

The second coat, or the proper substance of the cornea is a transparent, insensible, elastic, fibro-cartilaginous tissue, and consists of two portions. The external portion is composed of a number of concentric or parallel lamina, connected by a cellular tissue, the cells of which are filled with an unctuous fluid, having all the characters of the imperfectly coagulated, diaphanous mucus, which occurs in the centre of the inter-vertebral fibro-cartilages. This cellular tissue is abundantly supplied with absorbents. By boiling the cornea, we obtain gelatine similar to that obtained from the other fibro-cartilages. M. Gendrin,† in his admirable work, informs us, that when we tear the cornea after macerating it for a long time in a mineral acid, it ruptures parallel to its circumference, as if by the separation of concentric fibres; it is, however, impossible to render these fibres visible, but M. G. thinks that the above experiments, and several pathological considerations prove their existence. The internal portion is very dense, and is united to the other by cellular tissue. It is very important to bear in mind these two divisions, as the pathological phenomena which they exhibit are somewhat different, and in consequence of the greater density of the internal lamina, it is much more difficult to penetrate with cutting instruments than the exterior ones, and in operating for cataract by extraction, the knife is apt to be turned by the former portion, and the instrument, instead of passing through the anterior chamber, is inserted between the two portions of the cornea we have described. The blood-vessels of this coat are derived from the sclerotica, and in a healthy state, like the vessels of the other parts of the cornea, they carry a colourless fluid.

The third tissue is an extremely delicate serous membrane, which lines the internal surface of the cornea, and is intimately attached to it. The existence of this membrane has been denied by some anatomists, and it must be confessed that no one has succeeded in demonstrating it by dissection,‡ but its existence is rendered highly probable

* At least we have never seen filaments of lymph formed on its free surface as occur in serous membranes, and if it ever happens, it cannot be of more frequent occurrence than in other mucous membranes, as on the laryngeal mucous membrane in croup, &c.

† Histoire Anatomique des Inflammations, Vol. I. p. 331.

‡ Charles Bell, however, says in his Anatomy, Vol. III. p. 249, London, 1803, "after maceration, I have found raised in the fluid a very delicate and transparent membrane from the internal surface of the cornea."

from analogy, and is, we think, proved by several pathological phenomena which we shall indicate hereafter.

We have thus briefly noticed the anatomical structure of the cornea, and the physiological characters of the tissues which enter into its composition; we shall now attempt to trace the pathological changes effected in these tissues by disease, and their treatment.

I. *Inflammation of the Mucous Covering Membrane.*

1st. *Acute Inflammation.*—The first change produced in the mucous membrane of the cornea by acute inflammation, is a slight loss of transparency, arising from too great a fulness of its serous vessels. This being the effect of simple congestion, is immediately removed on the restoration of the circulation. If the irritation, however, is continued, the colourless vessels become so distended as to admit red blood, and they can then be readily distinguished. Around the vessels there is an effusion of coagulable lymph, producing at first a slight cloudiness; but as the inflammation advances more lymph is poured out, the conjunctiva becomes of considerable thickness, opaque, loses its smoothness and polish, and finally the vessels become varicose, transmit red blood, the lymph is organized, and the natural appearance of the conjunctiva is entirely destroyed.

The inflammation may be arrested at various periods of its progress, the absorbents take up the effused lymph, and the transparency of the conjunctiva be entirely restored. The degree of opacity removed by these vessels is often surprising, especially in children. We have seen in infants in whom the whole conjunctiva of the cornea was thickened and opaque, in consequence of puriform inflammation immediately after birth, the lymph entirely absorbed, and the transparency of the cornea perfectly restored.

The indications of cure are first to arrest the inflammation, and then to promote absorption. The first is to be accomplished by general and local depletion, revulsives, and diet. In healthy individuals, general depletion is to be preferred to local; when the patient will not, however, bear the former, or after it has been employed to sufficient extent, topical depletion may be had recourse to, and for this purpose we usually prefer cups, which may be applied to the temples or behind the ears and back of the neck; the former situation is usually the best: or leeches may be placed behind the ears, but not to the eyelids as usually recommended; we have never seen them applied there in the early stages of acute inflammation of the conjunctiva, that they did not aggravate the mischief.

The bowels are to be kept open by saline purgatives, and the most rigid diet enjoined.

After the violence of the inflammation has been subdued by these measures, blisters will be found serviceable; earlier than this, however, they invariably do mischief. They may be applied behind the ears, to the back of the neck, to the temples, or to the arms or legs: the two first situations are usually to be preferred; after the inflammation has been entirely subdued, and we wish to institute a permanent drain, they may be applied to the arms or the legs, especially the former, with advantage; or a seton will answer this last purpose exceedingly well. As revulsives in the earlier stages, pediluvia will be found useful.

When the inflammation is dissipated, stimulants must be applied to the cornea to promote the absorption of the effused lymph, and for this purpose an immense number of remedies have been recommended; the best are the nitrate of silver, the red precipitate ointment, the corrosive sublimate, and sulphate of copper. I prefer of these, the nitrate of silver, which should be employed in solution, one to four grains to the ounce of *distilled* water, dropped into the eye several times a day. This solution soon decomposes unless kept from the air and light; as soon, therefore, as it assumes a reddish colour, and small particles are seen floating in it when shaken, fresh should be prepared. The corrosive sublimate is used in solution, one or two grains to the ounce of distilled water. Much difficulty is often experienced in applying these solutions to the eye; it may be accomplished with great ease by means of a small quill or glass tube about two inches long, which should be introduced half way into the solution, and the upper orifice then closed with a finger; the eyelids are to be separated, and the lower end of the quill or tube placed near the cornea; the finger being removed from the orifice, the fluid will flow out. Great care should be taken not to employ these remedies too early, that too much action be not excited by them, and that it be only temporary; otherwise, instead of absorption being promoted, there will be an increased deposition of lymph.

Dupuytren, we learn, is extremely successful in the treatment of opacities of the cornea. He removes the inflammation by the usual remedies, and then orders to be blown into the eye equal parts of prepared tutty, sugar candy, and calomel, mixed together and reduced to an impalpable powder. This he continues for several weeks, and it is said he seldom fails to effect a cure. If the opacity is very old and large, he introduces a seton into the back of the neck, and the powder is blown into the eye some minutes at a time.

In several cases of extensive opacities of the corneal conjunctiva, of long standing, we have employed with great advantage finely powdered loaf-sugar and calomel, applied to the spot with a camel's hair brush.

Local stimulants will not, however, always succeed in effecting absorption; when this is the case, mercury should be resorted to, but not to the extent of producing salivation. We usually prefer the calomel in combination with tartrite of antimony and nitre; the proportion of nitre being larger than in the common nitrous powders. Few opacities, except in very depraved constitutions, or where the lymph is organized, will resist the judicious employment of this combination; aided by the application of a solution of nitrate of silver, or the calomel and loaf-sugar, to the eye, and a drain established by a seton in the neck, or a perpetual blister to the arms. It is, however, often necessary to continue these remedies for a considerable time.

2d. *Chronic Inflammation.*—In chronic inflammation, the blood-vessels soon become varicose, convey red blood, and anastomose frequently. The effusion of lymph is usually more general than in acute inflammation, producing a general opacity and thickening of the conjunctiva; this membrane seems to lose its close attachment to its subjacent tissue; the cornea becomes affected, and frequently "resembles in appearance the green colour which is presented by the fracture of common gun-flint; sufficiently diaphanous to admit the perception of light, yet too opaque to render external objects visible to the patient, excepting by their shadows, rendering it impossible to ascertain the colour of the iris, or distinguish the limits of the pupil."*

In the treatment of this inflammation, general blood-letting will be found of little service; topical depletion is much more useful. The solution of nitrate of silver should early be resorted to; and afterwards the solution of corrosive sublimate or the red precipitate ointment may be substituted, if the first does not succeed in effecting a cure. Blisters are useful, and in some cases we have seen them applied with advantage over the eye-lids. The varicose vessels should be divided with a knife, or elevated with a small hook and a portion cut out with scissors.

This inflammation is often excited and kept up by a granular state of the eye-lids, in others by the inversion of the lids, in such cases we need not expect a cure until the cause of the disease is removed.

Preternatural Growths produced by Chronic Inflammation.—Circumscribed tumours, of a dense and firm texture, are sometimes formed

* Vetch. A Practical Treatise on the Diseases of the Eye, p. 68.

upon the conjunctiva of the cornea, and attain a considerable magnitude, but such cases are rare. Mr. Travers says that he has "excised the anterior hemisphere of the eyeball in an elderly lady, in whom the cornea was concealed by a tumour of a dark purple colour, protruding to such an extent between the eyelids, as to occasion great inconvenience and deformity. It had the appearance of being disposed in lobes, somewhat resembling a bunch of currants of unequal size. On dissection, the cornea and sclerotica proved to be entire, and the morbid growth lying upon and adhering to the corneal and a small portion of the sclerotic surface, had acquired the lobulated appearance, as if by degeneration of the covering conjunctiva; for delicate white bands, the only vestiges of this membrane, were seen intersecting the lobules at irregular distances, in the form of septa. The substance, on section, was firm, of a dark colour here and there mottled with white, and measured a quarter of an inch in thickness, from the external surface of the cornea."*

3d. *Vesicular Inflammation.*—In certain cases of mild inflammation, the serous vessels pour out a fluid either in the substance of the conjunctiva, or in its subjacent cellular tissue. This secretion is very circumscribed, and forms small diaphanous vesicles, which usually burst, discharge their contents, and leave an ulcer.† This may extend to the proper coat of the cornea, or the breach may be repaired; and reparation may be effected by the lymphatic vessels, without any red vessels being visible; most frequently, however, blood-vessels may be seen running to the ulcer, these deposit a yellowish lymph, which is sometimes removed by the absorbents, at others remains, forming an opaque cicatrix.

This inflammation is to be treated by topical depletion, revulsives, and astringent washes, of which the best are the nitrate of silver and sulphate of copper.

4th. *Pustular Inflammation.*—Pustules are not unfrequently formed in the conjunctiva of the cornea, and as in other mucous membranes, they are the result of inflammation of mucous follicles, we are inclined to consider them here as the consequence of follicular inflammation, though follicles have not been as yet demonstrated in this part. It may be supposed by some, that these pustules are mere abscesses; we cannot, however, consider them as such, since they do not exhibit the common appearances, nor follow the usual course

* Synopsis of the Diseases of the Eye, p. 102. ed. 3d. London, 1824.

† This affection has been described by Gendrin. Op. cit. Vol. I. p. 523.

of abscesses, and they often occur as concomitants of unquestionably follicular inflammations, as small-pox, aphthæ, &c. These pustules are usually situated near the margin of the cornea. At the very commencement of this inflammation, minute fasciculi of vessels presenting a triangular form, may be perceived running upon the cornea, and at the point of each plexus a pustule forms. At first, this pustule appears in the form of a dusky, yellow, or reddish spot, a little elevated above the surface of the cornea, and in a short time becomes a conical tumour. Coagulable lymph is secreted around the fasciculi of vessels, and the cornea in the vicinity of the pustule becomes more or less dense. The vessels always run in fasciculi, pointing towards the pustule, and the redness is never diffused, as in common, acute, or chronic inflammation. This disease is attended from the commencement with pain, usually very acute, and lachrymation; these subside as the disease advances. If the inflammation is not early arrested, a straw-coloured purulent fluid is secreted in the pustule, its apex ulcerates, it discharges its contents, and an ulcer is left, the edges of which are opaque. The ulceration may extend to the cornea, or restoration take place; this latter is effected by the effusion of coagulable lymph, which becomes organized, and the surplus is either absorbed, or an opaque cicatrix remains.

The inflammation in this disease is very apt to return on any slight irritation. In some cases where it returns frequently, the pustule seldom ulcerates, but disappears gradually, after having remained a few days.

This disease sometimes occurs simultaneously with, and appears to be connected with small-pox, aphthæ, and similar affections; at others, it appears to be produced by some circumscribed local irritation, or to be dependent upon a peculiar diathesis or state of the constitution. It usually occurs in children, and occasionally spreads through schools and large families; it is met with, however, in persons of all ages. These pustules bear some analogy to the aphthæ observed in the cavity of the mouth, on the tongue, lips, and on the internal surface of the intestinal canal, and Professor Himly says that at a time when aphthæ of the throat were very frequent at Brunswick, he also found many small vesicles beginning with an inflammation of the sclerotic coat, and also sometimes, but more rarely of the cornea. Once he saw a whole family affected with this disease, one after another. "It was," says he, "a true catarrhal affection, and in some cases these vesicles disappear by diaphoretic medicines, in some by blisters, camphor, and antimony, without any local application, except mucilaginous ones. I think that it is just the same disease as aphthæ of

the intestinal canal, of the corona of the glans penis, and other fine continuations of the external skin. Those on the cornea become worse if they are opened, and if they open themselves and form ulcers, they generally dry up by means of borax and white vitriol, but if they are neglected, they cause sometimes considerable ulcers which are very obstinate and hurtful to the cornea."*

In the treatment of this inflammation, general blood-letting is not often demanded; topical depletion, however, is almost always beneficial, and this may be effected either by cups or leeches. The bowels should be kept open, and for this purpose we prefer in the first instance calomel, and then a mixture of pulv. rhei and creta ppt. Blisters are also useful, and they should be applied to the back of the neck, behind the ears, or to the arm, and kept open. When the pain is very violent, fomentations will sometimes afford considerable relief. After the inflammation is reduced by these measures, astringent collyria should be employed; the best is the solution of nitrate of silver. In the very onset of the disease it is also useful, and should the patient be seen early enough, by touching the plexus of vessels with the argent. nit. and administering at the same time a smart purgative, the disease may occasionally be arrested. In the latter stages of this disease the vinum opii has been strongly recommended. We cannot say any thing respecting its value from our own observation, as we have little experience with the remedy in ophthalmic inflammation. In a few instances in which we employed it, we derived little or no advantage from it, and therefore have not persevered in its use, but it has been so highly extolled by respectable writers, that its utility, in some cases, can scarcely be doubted. When the pustle is evidently filled with pus, and there is no prospect of its being absorbed, it is better to open it at once carefully with a sharp cataract needle. The ulcer that is left may be cured, and the absorption of the lymph promoted by the judicious use of the nitrate of silver and revulsives.

5th. *Ulcerative Inflammation.*—The conjunctiva bears the same relation to the cornea that the synovial membrane does to cartilage, and pe-

* We have made this quotation, (for which we are indebted to Wardrop's valuable essays on the morbid anatomy of the human eye, never having seen the original,) with some hesitation, as the disease is termed vesicular. Whether the affection consisted of true pustules or really were vesicles, and an error has been committed either by the author or the translator, we are unable to determine: but as the swellings are said to resemble aphthæ, which are true pustules, i. e. inflammations of cryptæ, we are inclined to believe that there is a mistake somewhere, and that the disease consisted of pustules.

riosteum to bone, and like these membranes, it is much less disposed to ulcerate than the part it covers. Ulcers, however, do form in it, and they are described by M. Gendrin,* as always commencing by the formation of a very small tubercle, at first red, very little prominent, and soon of an ashy white. This small tubercle, which is produced by inflammatory effusion into the conjunctiva, has been ofter mistaken for abscess beneath or in the thickness of the conjunctiva. As soon as the ulceration has destroyed this tumour, we see a livid red, irregular ulcer, having elevated edges, and a grayish base. It remains in this state during the existence of the inflammation, but when cicatrization is about commencing, the edges of the ulcer become less prominent, the redness less livid, its base assumes a reddish appearance, the size of the ulcer diminishes, and if it has not extended beyond the thickness of the cornea, it appears like a slight excoriation. This may be the usual appearance and progress of ulcers of the cornea, but they certainly do not always commence in this manner. They often succeed vesicular and pustular inflammation; and we have seen them apparently produced by a real ulcerative absorption, the cornea exhibiting no apparent loss of transparency, and no coloured vessels or lymph being visible.

Eliza Davis, aged thirty, servant, applied to the Pennsylvania Eye Infirmary, January 30th, 1824. She had slight inflammation of the conjunctiva of one eye, and an indistinctness of vision, for which there was no visible cause. By the loss of a little blood, purging, and low diet, the inflammation abated in a few days, but the indistinctness of vision increased. At this period the cornea, though transparent, did not present a perfectly natural appearance, and on carefully examining it in certain positions, a very minute, irregular depression was observed by the irregular reflection of the light. On examination with a microscope, at least fifty ulcers were seen on the cornea, all so minute that they could not be perceived by the naked eye; the one at first seen was evidently formed by the union of three or four. These ulcers remained for several weeks, but ultimately entirely healed. At no period was there any effused lymph or red vessels to be seen on the corneal conjunctiva.

Mr. Ryall is, we believe, the only writer who has noticed these minute ulcers.†

* Op. Cit. Vol. I. p. 683.

† Transactions of the Association of Fellows and Licentiates of the King and Queen's College of Physicians in Ireland, Vol. V. p. 2.

The first object to be attained in the treatment, is the reduction of the inflammation, and the next to promote cicatrization. The first is to be accomplished by the usual antiphlogistic measures, and for the second, the best remedy is the solution of nitrate of silver. Mr. Ryall says* that he has "not unfrequently known patients of weakly, strumous habits to have been condemned to long confinement in darkened apartments, to a strict antiphlogistic regimen, and even to the influence of mercury, whose miseries might have been in a great measure curtailed, had the precise nature of their complaint been timely discovered, and the nitrate of silver applied." These measures will usually effect a cure. When the ulceration involves the proper lamina of the cornea, the treatment to be adopted will be pointed out when we come to consider the ulcerative inflammation of this part.

II. *Inflammation of the proper tissue of the Cornea.*

1*st. Acute Inflammation.*—The first step of acute inflammation consists in engorgement of the vessels, and in the cornea it is evinced by a slight haziness or loss of transparency. At this stage, resolution may take place by the contraction of the lymphatic vessels to their original diameters; but if the disease progresses, the vessels become distended, and first admit a dense coagulable lymph, and then the red globules of the blood; and deep-seated vessels may be seen in the substance of the cornea, always running from the circumference towards the centre. These vessels are usually most visible at the junction of the sclerotic coat with the cornea, and on close observation they may be seen forming at this part a beautiful red zone of rectilineal vessels, which zone is very different from that occurring in iritis; the latter being formed by anastomosing vessels, and situated a short distance from the cornea, leaving a whitish zone within it. The inflammation may terminate in effusion of coagulable lymph, or a puriform lymph, usually succeeded by ulceration, or the action may be so violent as to produce gangrene or sloughing; in some few cases blood has been effused between the laminæ of the cornea. The lymph is generally deposited in the cellular tissue connecting the laminæ; and the extent of this effusion varies, sometimes being confined to a small space, at others occupying the whole of the cornea. If the inflammation has not been very violent, or is early arrested, the lymph may be removed by the absorbents, and the transparency of the cornea, in great part, or even entirely, restored; sometimes, however, the lymph be-

* Op. Cit. p. 3.

comes organized, and red vessels may be seen ramifying through it. If the inflammation is severe, and continues for any length of time, considerable disorganization is produced, the cornea swells, its vessels become varicose, and transmit red blood; its laminæ are separated, coagulable lymph is effused in their substance and between their laminæ, and the whole cornea becomes thickened, opaque, and spongy. The pain that attends this disease is very various, and seems to depend upon the extent to which the sclerotica and the internal tissues are involved.

Inflammation of the cornea may be produced by extension from the sclerotica or conjunctiva, and by the usual causes of inflammation elsewhere. Persons with a scrofulous constitution are peculiarly liable to it, and in them, it is very difficult of cure, the disease often assuming a chronic character, and relapses taking place on the slightest exposure to the exciting causes.

In the management of acute inflammation of the cornea, the importance of the organ affected, and the rapidity with which disorganization may take place, must be kept constantly in mind. The treatment must of course be regulated by the violence of the inflammation and the habit of the patient, but prompt and efficient measures should always be adopted. In the commencement, general blood-letting is almost always demanded, and for this purpose opening the temporal artery has been highly recommended by some writers. We are not aware of any advantages that it possesses over venesection, and a bandage around the head being usually necessary to arrest the flow of blood, the circulation of the head is impeded, and its vessels become engorged; and even if no bandage be required, the wound generally proves a very injurious source of irritation; venesection should therefore always be preferred where it can be accomplished. After general depletion has been carried as far as the violence of the disease may demand, or the constitution of the patient justify, topical depletion will generally be required. It is impossible to lay down any very accurate rules, by which it may be known, at what period, and under what circumstances, topical is to be substituted for general depletion. In inflammation of organs, not essential to life, occurring in healthy individuals, and where none of the vital organs are implicated, general depletion may be pushed to a greater extent than is usually supposed, and with much advantage; the usual error we suspect is in not depleting sufficiently. But in diseases of vital organs, or where these have become deeply implicated, and where the inflammation has been of long continuance, and become established, and especially in broken down or depraved constitutions—topical

must be early substituted for general depletion, and often entirely depended on; as the latter, in these cases, debilitate the healthy organs more than it relieves the affected ones, and the restorative powers are thus weakened or destroyed. When a good deal of pain attends the disease, much relief is often afforded by fomentations, especially by means of flannel wrung out of a hot decoction of poppy-heads; but these applications should not be too long continued, and warm poultices should be invariably avoided as eminently injurious, promoting suppuration and disorganization of the cornea.

Purgatives and revulsives will be found highly useful; their employment must be regulated by the same rules as laid down in inflammation of the conjunctiva; a proper diet must also be enjoined.

The inflammation being reduced by the above measures, if opacity remains from the effusion of lymph, its absorption must be promoted by keeping down the inflammatory action by occasional local depletion, by low diet, by stimulating applications; such as the solutions of nitrate of silver, or of corrosive sublimate, red precipitate ointment,* &c. When other means fail, mercury in combination with the above remedies will sometimes succeed; in this case we prefer the combination already noticed of calomel, nitre, and tartar emetic; and think we have derived most advantage from the alterative action of mercury than when urged to salivation. In scrofulous persons, salivation is much to be deprecated; we have seen such kept under the long-continued influence of mercury for opacities of the cornea, to the great injury of their constitutions and the evident aggravation of the disease, relapses of inflammation occurring on every variation of temperature, from the increased susceptibilities thus created, and the vessels of the cornea becoming, from the frequent attacks of disease, permanently enlarged. In such cases the alterative effect attained by the use of the combination just noticed, will often be found useful, but it should be administered with caution, and frequently intermitted for fear of salivation, and during these intervals the bowels should be kept free, by the daily administration of rhubarb and prepared chalk.

When the varicose vessels belong to the conjunctiva, it has been recommended to take up a fold of this membrane, and excise a small portion so as to divide them, or when they are somewhat deeper to divide them with a knife, but our own experience would not lead us to say much in favour of this practice.

* The red precipitate ointment should be very carefully made, or it will be productive of more injury than benefit. The precipitate should be first reduced to an impalpable powder, and then intimately mixed with fresh lard or butter. It should not be used after it has become rancid.

By the judicious employment of the means indicated, very extensive opacities of the cornea may be removed; indeed, unless the lymph has become organized, great benefit, or even a cure is mostly effected, especially in young patients; and even where the lymph has became in a degree organized, and varicose vessels are seen running to the part, something is often gained. For when both corneæ are affected in their whole extent, and only a portion is rendered transparent, if this is not over the natural pupil, an artificial one may be made, and a useful degree of vision restored.

2d. *Chronic Inflammation.*—This produces a slow change in the texture of the cornea, rendering it opaque, indurated, condensed, and more easily torn than in health. Such disorganization is not produced in the cornea, without the inflammation extending to the conjunctiva, and often to the sclerotica; lymph is deposited in both these tunics, especially the former, which loses its transparency, and the latter its blue colour. The globe of the eye appears as if covered with a fibrous fascia, the fibres of which converge towards the centre of the cornea, which part presents a yellow, pearly appearance, not unaptly compared to that of the inside of an oyster-shell, varicose vessels ramifying over it.

Such cases are generally beyond the resources of art, the effusion of lymph having usually been so profuse as to agglutinate the cells of the interlamellar tissue, and the absorbents are no longer capable of effecting its removal.

A deposit of lymph, formed perhaps by a slow, chronic inflammation, is often seen in old men; the lymph is deposited in a regular circle around the cornea, forming what has been denominated the arcus senilis. Mr. Wardrop* says that he has seen it at all periods of life, even in very young subjects.

3d. *Suppurative Inflammation.*—Inflammation of the cornea rarely, if ever, terminates by the effusion of true pus; but instead of this fluid, a tenacious, yellowish substance, partaking more of the nature and properties of lymph, is secreted in the cellular tissue connecting the laminæ of the cornea. This termination is like abscess in common cellular tissue. When the deposit is small, it is frequently removed by the absorbents, and often without any vestige being left. Sometimes coagulable lymph is effused round the deposit, or in its place, and a permanent cloudiness is left. When the deposit of pus is large, the superficial laminæ are usually removed by absorption,

* Op. Cit. Vol. I.

the contents of the abscess are thrown off in the same manner as sloughs, and an ulcer is left. This may heal by the usual process, and the transparency of the cornea be restored, even when a considerable portion of it has been affected. Mr. Vetch* says that he has seen the cornea not only recover its transparency after two-thirds of its extent had been destroyed in this way, but that he has frequently procured a transparent cicatrization after the second, and even third attack of inflammation, followed by ulcer and slough.

The treatment must be commenced by reducing the inflammation, which is to be accomplished by the measures already noticed; principally topical depletion and purgatives, as the disease is usually not very violent, and blisters should early be resorted to; by these means the effusion will generally be absorbed. When the abscess is very superficial, and the external laminæ are bulged out, it is well to open it with a cataract needle, and evacuate its contents by entangling them with the point of the needle, and drawing them out. In abscess deeply seated, no advantage is obtained from this practice. When the effusion is very large, and there is a disposition to slough, as usually occurs in depraved constitutions, the system must be supported by tonics, such as the sulphuric acid, bark, &c. and a nourishing diet.

4th. *Ulcerative Inflammation.*—The cornea, like the other fibro-cartilages, very frequently ulcerates. The conjunctiva bears the same relation to the cornea, as we have already observed, that periosteum does to bone, and perichondrium to cartilage; and when the former is removed, either by abrasion, the rupture of pustules, or destroyed by chemical agents, a portion of the cornea being exposed, sometimes dies, and is removed by absorption, leaving an ulcer. Ulcers are also produced by mechanical injuries, but wounds of the cornea often heal without ulceration, the healing process being at once established. The shape and appearance of ulcers are very various, sometimes appearing like little excavations, with little or no surrounding opacity; most generally, however, lymph is effused around them, and at their base. Mr. Vetch† says that they have a disposition rather to spread than to deepen, while Mr. Wardrop‡ asserts that they are more apt to increase in depth than in breadth. The fact seems to us to be, that when the sides of the ulcer are not limited by coagulable lymph, they spread more readily than they penetrate, but when lymph is deposited on the sides, it seems to arrest their spreading, and they are dis-

* Op. Cit. † Op. Cit. ‡ Op. Cit. Vol. I.

posed to deepen, until they arrive at the inner lamina of the cornea, which ulcerating less readily than the others, the progress of the ulcer is for a time arrested, but if the disposition to disease is not removed, this check is but temporary, and the ulceration may spread or deepen, or both, the internal membrane not affording any effectual barrier to the ulcerative process.

As soon as the internal lamina is sufficiently thin and weakened by the ulceration, which, if the ulcer is broad, early happens, it is pushed forwards by the pressure of the aqueous humour; or if the ulcer is small, this lamina may ulcerate through, and then the serous internal membrane is protruded, in the form of a transparent vesicle, which soon ruptures, and the aqueous humour is discharged. If the ulcer is within the limits of the iris, the latter floats forward, coagulable lymph is secreted, uniting it with the edge of the ulcer and the opening is thus closed. The aqueous humour being rapidly regenerated, however, before the breach is repaired or sufficiently strengthened to resist pressure, a rupture again takes place, and the humour is evacuated; and this is frequently repeated before a sufficient quantity of lymph is effused to render the breach strong enough to support the pressure of the aqueous humour. When the ulcer is near the centre, this rupture occurs more frequently, as the iris cannot assist in closing the breach. After the protruded membrane is sufficiently strengthened by the lymph to sustain the pressure, it is then pushed forward, and the iris with it, if the latter has become adherent to it. A complete hernia is thus formed, the pressure of which upon the sides of the ulcer causes their absorption, and the tumour thus gradually enlarges till it sometimes occupies the whole cornea. The tumour, at its commencement, if the iris is connected with it, is black; if not, it is transparent and colourless; as it advances it becomes opaque, whitish if the iris is not connected with it, while under opposite circumstances it has a beautiful bluish appearance; the cause of this colour, so different from that of either the cornea or iris, has never been explained.

When inflammation of the cornea occurs in persons of depraved constitutions, in those who have recently lost much blood, as for the cure of acute inflammation, or in children imperfectly nourished, the power of the arteries often appears to be extremely diminished, they do not perform their natural office of deposition with their wonted vigour, whilst the action of the absorbents continues as usual, or is even increased. In such cases, more being removed by the absorbents, than is deposited by the arteries, *interstitial ulcers from pure ulcerative* absorption occur, and the cornea remains transparent, but indent-

ed or pitted, according as the ulcers are diffused or circumscribed. When the arteries are restored to their healthy action, lymph is deposited, which fills up the breach, and the ulcer is cured.

If the inflammation in such individuals be very intense, the arteries lose their powers entirely; the vitality of portions of the cornea are lost—the contiguous parts are removed by the absorbents—the dead portion is cast off as a slough, and lamina after lamina thus slough away. This occurs, besides under the circumstances noticed, in those in whom the parts have been weakened by previous repeated attacks of inflammation, and very frequently after the sloughing of the conjunctiva, which sometimes succeeds purulent inflammation of that membrane; and the cornea then presents that peculiar appearance designated by Mr. SAUNDERS, by the terms "cindery, ragged, flocculent." When restoration occurs, it is effected, as in common ulcer, by the deposition of lymph, the excess of which is absorbed; and the transparency of the cornea is sometimes restored, even where a considerable portion of it has been destroyed. Mr. TRAVERS* says that if the inflammation be arrested even on the verge of gangrene, the cornea is susceptible of restoration by absorption. "This fact," he adds, "I had lately an opportunity of establishing in the case of a lady who was rendered blind by acute suppurative inflammation of the conjunctiva; so inevitable to all appearance was the destruction of the cornea, which had sloughed in a deep sulcus at its junction with the sclerotic above, that the most experienced practitioner of my acquaintance in this branch of surgery, pronounced the case hopeless and irremediable, and took his leave. The highest tonic regimen, bark, wine, and opium, followed close upon a very active and bold depletion, and the anterior chamber was fortunately and unexpectedly preserved. No sooner was a sign of the arrest of sloughing ulceration obtained than I commenced a mercurial course; in three days the system was affected; the recovery of the figure, and transparency of the cornea was rapid and complete beyond all expectation, and an equally perfect state of vision was restored and established."

The gangrenous opacities of the cornea, says Mr. Travers,† produced by lime or other substances destroying its texture, are sometimes superficial and defined in extent, and a process resembling exfoliation ensues. More frequently this disorganization is integral and complete. The cornea, disorganized by acids, is rendered instantly opaque, shrivelled, and of a yellow colour, almost resembling a piece of wash leather.

* Op. Cit. p. 119. † Op. Cit. p. 170.

Ulceration of the cornea being the effect* of inflammation, where this condition is still present, the first indication is of course to remove it, and this is to be accomplished by the means already pointed out in speaking of the inflammation of this part. Acute pain, lachrymation, and photophobia, often accompany ulcers of the cornea, and where these are not removed by the ordinary remedies, temporary benefit will be obtained from fomentations, but the greatest relief will be experienced from touching the ulcer with a fine pointed pencil of nitrate of silver, so as to produce an eschar. After the inflammation is subdued in ordinary cases, the disposition to ulceration ceases, granulations form, and the process of restoration takes place; should this flag, stimulants ought to be applied, and the best of these is the nitrate of silver. Where the inflammation has been very intense, and it is found difficult entirely to overcome it, the combination of nitre, colomel, and tartar emetic should be administered; or if this state be accompanied with much pain, the blue pill and opium may be given. When the ulcer penetrates deeply into the cornea, and the internal lamina, or its internal lining membrane are protruded by the pressure of the aqueous humour; this protrusion should be touched with the fine pencil of lunar caustic, by which means, together with active antiphlogistic measures, especially topical depletion and purgatives, and blisters to the back of the neck, the further extension of the ulceration, and the evacuation of the aqueous humour may be prevented. Should, however, these means fail, and the ulcer penetrate the cornea; if the opening is small, and opposed to the iris, the further escape of the aqueous humour will be prevented; and by the further employment of antiphlogistics, the progress of ulceration may be arrested, and restoration take place. The iris is however adherent to the cornea by the lymph effused during the healing process, and its actions deranged. This may be often relieved by promoting the absorption of the lymph, by putting the system under the mercurial influence and by applying belladonna to the lids and brow. When the aperture made by the ulceration is large, a portion of the pupil is usually prolapsed, and a true hernia of the iris takes place, generally attended with extreme pain from the stricture. This is to be relieved by the free application of the pencil of nitrate of silver so as to destroy the vitality of the part. When the slough separates, a fresh portion of the iris will be protruded, and this is to be treated in

* Scarpa states that ulcer of the cornea is the cause of the inflammation, and not the inflammation of the ulcer. We know not how so accurate an observer could have made such a mistake. See translation of his treatise on the Diseases of the Eye, by Briggs, 2d ed. London, 1818, p. 216.

the same way, and the operation repeated, till the pain ceases and restoration takes place. The iris in this case is permanently injured, and the pupil usually closed. If the prolapsed iris has been neglected in the first instance, it may increase in growth and assume a malignant action; it should then be removed by scissors, and the cut surface and margin of the ulcer, freely touched with the nitrate of silver. When the cornea becomes disorganized and prominent, no attempt at effecting restoration will be successful. If the prominence is not very considerable, and no irritation results from it, it had better be left undisturbed; but when it is so great as to prevent the closure of the eyelids, occasion great deformity, or be productive of habitual irritation of the edges of the eyelids, it should be excised; after which the humours will usually escape and the globe collapse. The excision may be most conveniently performed, by passing a needle with a ligature across the cornea to steady the eye; the protrusion may then be divided with a large cornea knife, and if the whole is not divided, the remaining portion may be cut with a pair of scissors. A compress of soft linen should then be applied to the eye and retained by a roller.

In interstitial ulcers the indication is to excite the action of the arteries, which is to be fulfilled by the use of topical stimulants, as a solution of nit. argent., sulph. of copper, or vinum opii, and nutritive diet and tonics, as the sulphuric or nitric acid and bark. As soon as the restorative action commences, it will be preceived by a whiteness of the ulcer and slight cloudiness of the surrounding parts, denoting the adhesive process.

In the treatment of sloughing ulceration of the cornea, a discriminating judgment and close observation will constantly be required. In healthy constitutions the most prompt and vigorous antiphlogistic measures will be demanded in the commencement, and at the same time the ulcer should be touched with the pencil of nitrate of silver; it will subsequently be often necessary to allow nourishing diet and tonics. When the sloughing process is arrested by these means, mercury will in many cases complete the cure. In debilitated and depraved constitutions, nourishing diet and tonics will often be demanded from the very commencement; but at the same time, if there be much local inflammation, topical depletion should be employed, and afterwards the ulcer touched with the solid nitrate of silver, and when the healing process commences, the solution should be applied several times a day. When the ulcer penetrates the cornea, the local applications already recommended are to be employed, but instead of antiphlogistics, tonics and nourishing diet are to be prescribed.

5th. *Conical Cornea.*—We shall here notice an affection of the cornea, observed only within a few years past, and as we have never met with it, we shall transcribe the account given of it by Mr. Travers.* "The cornea is occasionally subject to a process of thinning or absorption of its interlamellar texture, and in consequence loses its natural tonic resistance to the pressure of the contents of the globe. It usually assumes a conoidal figure, but this is not always the case; the projection of the corneas is sometimes uniform, describing the segment of a larger sphere. The apex of the cone corresponding to the centre of the cornea, when this figure is assumed, exhibits a degree of tenuity and brilliancy which gives it the appearance of a pellucid fluid, like a dew-drop suspended. The patient's vision becomes so inconveniently short, as to render objects confused at a very moderate distance; the change is sometimes slow, occupying months and even years, and on the contrary I have seen it produced in its greatest extent in the short space of eight weeks; both eyes are generally affected, though not always in the same degree. The disease is not produced by inflammation or any obvious assignable cause; it is more frequent in women than in men, and in my experience affects the periods of youth and middle life; I have never seen it commencing in infancy or old age. It is as much the disease of the robust as of the weakly constitution and frame of body."

A variety of remedies have been tried for the cure of this affection, such as frequent cupping, issues, evacuating the aqueous humour, all however without success. A pupillary aperture, set in a black ring frame, about a quarter of an inch or more in depth, when the convexity is not very much increased, by confining the rays of light to the central portion of the cornea, and preventing the confusion from the unnatural refraction of the lateral rays, will sometimes considerably assist vision.

6th. *Encysted tumours in the lamellæ of the Cornea.*—These were first observed by Dupuytren in the case of a child who had been struck on the eye some weeks before by a stone. At first view he conceived it to be an opacity of the cornea, but a more minute inspection showed it to be a serous encysted tumour existing between the lamellæ of that coat. He introduced a cataract needle into the small cyst, and moved the instrument up and down in order to irritate its inner surface. The fluid in the tumour was evacuated, but in fourteen days it formed again. The operation was repeated, and adhesion of its sides took place, but opacity of the cornea resulted. No other

* Op. Cit. p. 124.

surgeon has, we believe, noticed these tumours, and little is known respecting them.

7th. *Ossification of the Cornea.*—The vessels of the cornea, like those of the other fibro-cartilages, in some few instances secrete osseous matter. Mr. Wardrop* has met with it on one occasion, in which the form of the whole eye was changed, the cornea had became opaque, and on maceration a piece of bone, weighing two grains, oval shaped, hard, and with a smooth surface, was found between its lamellæ. It is mentioned in the *Nouvelle Bibliothèque Médicale* for May, 1817, that the eye of an old man had been recently presented to the Societé Anatomique by M. Monot, in which the cornea was ossified throughout.

III. *Inflammation of the Serous Lining Membrane of the Cornea.*

Inflammation of this tunic, independent of that of the cornea, is of too unfrequent occurrence to enable us to ascertain very minutely its progress and terminations, but as far as our observation goes, they are similar to those of other serous tissues. In the following case we were enabled to observe this affection with great advantage, as it was uncomplicated with inflammation of the cornea.

Eliza Williams, a coloured woman, aged twenty, applied to the Pennsylvania Eye Infirmary, April 6th, 1826. Her sight had been growing dim for several days, and she suffered slight pain in her eye. On the most minute examination, no change from a healthy state could be perceived, except perhaps an extremely faint dullness, almost imperceptible, situated at the posterior part of the cornea, the cornea itself being evidently unaffected. After some days a small spot became evident, and was shortly followed by two others, differing both in situation and appearance from the opacities produced from inflammation of the cornea. They were deep-seated, and evidently produced by the effusion of lymph on the inner surface of the cornea, giving it the appearance of being mottled with white. The margins of these spots were well defined, and the lamina of lymph so thin as not to produce perfect opacity.

The treatment employed in this, and which we would recommend in similar instances, was the employment of antiphlogistics to prevent effusion; and to put the system under the mercurial influence to promote absorption after effusion of lymph had taken place. In the case we have described, owing to peculiarity of constitution, this latter could not be persevered in to a sufficient extent, and the spots have remained permanent.

* Op. Cit. p. 72.

ART. VIII. *On the Use of Iodine in several Diseases.* By WILLIAM M. FAHNESTOCK, M. D.

THE unsettled state of public opinion on the efficacy of the iodine in many of the diseases for which it has been highly extolled, renders any confirmatory proof interesting to the physicians of the United States, who, in general, have been restrained in experimenting with the article from the contradictory statements of the practitioners of Europe; and though it is not in our power at present to offer a very extensive experience, we hope the sketches of a few cases, which we append, may tend to a further and more active prosecution of the subject. We shall hereafter communicate more particularly the results of a series of experiments with this substance; and, to aid a proper estimate, we may prepare a monograph of practical deductions drawn from the facts and observations of the faculty of both hemispheres.

Taught to regard it as nugatory and utterly useless in confirmed goitre, and cautioned by the admonitions of Dr. GAIRDNER, and the restrictions imposed on its exhibition by the Swiss government, we refrained from employing it, until the constant importunities of a suffering patient induced us to administer it in a case which had baffled every remedy in its forming state. The tumour was large, pendulous, and of a purple colour, of eight years standing, and produced considerable pressure upon the trachea. The tincture of MAGENDIE* was given in doses of ten drops, gradually increased to twenty, three times a day, and the unguentum potassæ hydriodatis rubbed on the part mornings and evenings. After a fortnight it began to decrease, and in the course of two months it had entirely disappeared.

CASE II.—Mary, ætat twenty-eight, a sister of the Antietam nunnery of Franklin county in this state, discovered the enlargement of the thyroid gland six years since, which continued to enlarge until it had obtain the size of a walnut, and was hard and painful. The mild tincture was prescribed in the ordinary doses, and the liquor potassæ hydriodatis ordered to be used externally. The tumour, at present, (having used the medicine seven weeks,) is scarcely perceptible, soft, and free of pain, or any uneasy sensation. We have now five other cases under an equally successful treatment.

* Believing the quantity of iodine used by Magendie too great, independent of the waste, we subsequently have prepared the tincture with thirty grains to an ounce of alcohol, and have much reason to be pleased with the modification.

Case III.—Perplexed with a case obscure in its nature, and very concealed in its operations, which appeared to be a periodical congestion of the whole glandular system, associated with derangement of the catamenia, in a young lady of nineteen, and recollecting the encomiums of Coindet and Coster* on the iodine as an emmenagogue, and its usefulness in scrofulous affections, I recurred to it with the most signal advantage. About the usual period of menstruating, the superficial glands became enlarged and painful, sometimes highly inflamed, and occasionally producing imperfect suppuration, accompanied by nausea, indigestion, and eructations, which evidenced a disordered state of the mesenteric system. The discharge from the uterus was but small, and attended by much pain, and frequently scarcely any show at all. The tincture was administered in the syrup of sarsaparilla, and was continued three months with the happiest effects, and seemingly with permanent benefit. There are no cases which come under the care of the physician, more complicated and interesting than the derangements of the uterine system, or for the relief of which, the young aspirant gains more of the applause and confidence of the influential part of the community. It therefore affords the most fertile field for anxious but cautious and prudent experiment. I have also the pleasure of adding my testimony to that of M. Gimelle,† of its usefulness in chronic leucorrhœa, from a case now under treatment, but not sufficiently recovered to report as perfectly relieved.

Case IV.—Another formidable disease which has combated every remedy, and defied the surgeon's knife, may be found to yield to this very active agent—fungus hæmatodes. An incipient case came under our observation, in which the limb had not yet attained very great enlargement, but was knotted, and bore all the characteristics of the genuine fungus hæmatodes; it yielded most effectually to the tincture and unguentum.

We have never found any of the bad effects arise from its use as exhibited in the lamentable picture of the English author upon this substance. A little sickness of the stomach occurred in the first case, which is to be attributed to the strength of Magendie's tincture; and a little vertigo attended the second, probably from increasing the dose too rapidly, both of which were relieved by omitting the remedy for one day; but with the mild tincture we have never witnessed any unpleasant symptom; and it may be proper to add, that Decarro, Coindet, Erlinger, Formey, and a host of others who have experimented most extensively, never complained of any injurious quali-

* Archives Générales de Médecine. † Revue Médicale.

ties. It is well, however, to observe that the *burnt sponge*, which has been used as the same, has not precisely the same operation, and contains some deleterious properties, which have been particularly remarked by Hufeland,* as being noxious to persons disposed to phthisis and spitting of blood; and it is doubted by Fodere and M. Heyon whether it contains any iodine whatever. Much may depend on the quality of the tinctures, as it has been ascertained that when suffered to stand any time, it deposits crystals, and may form the iodureted hydriodic acid: therefore it should always be prepared for immediate use, and in small quantities. These precautions may obviate the evils complained of so bitterly—to which may be added, premising its exhibition by evacuating the alimentary canal, and occasionally giving a gentle cathartic, as calcined magnesia, should any untoward symptoms occur.

Art. IX. *Case of Tracheotomy.* By Zadok Howe, M. D. of Billerica, Massachusetts.

A DAUGHTER of Mr. French of Tewksbury, three years and a half old, on the 21st of September last, while at play in the garden, took a bean into the trachea.

I saw the child two hours after, but as we had no means of ascertaining the nature of the foreign substance, and as the symptoms were not very urgent at that time, I heard nothing more of the case till the 28th. The child was then labouring under frequent and distressing paroxysms of coughing attended with suspended respiration and other urgent symptoms which clearly indicated the necessity of an operation. It was proposed and immediately assented to by the parents. It was evening, and as I was unprepared for an operation, it was postponed till the next day, when, with the assistance of Dr. Dalton, of Chelmsford, it was performed in the following manner.

A heavy table was provided with the side leaves turned down, leaving a horizontal surface, sixteen inches wide, covered with blankets, with a firm roll of cloth four inches in diameter across the end.

The child was firmly secured on the back by the hands of assistants, the nape of the neck resting on the roll of cloth, the head carried far back over the end of the table. An incision was made from the lower edge of the thyroid cartilage to within a quarter of an inch

* Hufeland and Osann's Journal, der pract. Heilkunde, Feb. 1828.

of the sternum. After waiting a few moments for a slight bleeding to subside, a puncture was made into the trachea with a slender double-edged scalpel in the centre of the incision, dividing one cartilage; then with a curved, probe-pointed bistoury the puncture was dilated from within outwards, dividing one cartilage above and one below. In this elongated state of the parts, the division of three cartilages made an opening sufficiently free to admit the forefinger of the left hand into the trachea. The finger was introduced to separate the edges of the incision which did not incline to retract. Immediately after withdrawing the finger, with a spasmodic effort, a bean was expelled with considerable force, and lodged on a bed which stood in the room. This saved us the trouble of attempting that part of the operation which I most dreaded; for experience had taught me to envy no man the pleasure of probing in the trachea for beans or peas. Half an hour after, the opening still retained the shape of the finger, large and free; the divided cartilages had approximated but very little. The wound was then brought together, and secured with adhesive plaster, and being unwilling to disturb the stomach, we gave no medicine, excepting a few drops of laudanum, at the same time directing a spare diet. The plasters succeeded imperfectly, partly in consequence of the action of the mastoid muscles, and because the opening was rather too low on the neck to admit of their being applied to the best advantage. The air rushed through the aperture occasionally for forty-eight hours, but never after.

I dressed the wound a few times, and discontinued my attendance in about two weeks. At the time of the accident the child had not entirely recovered from the whooping-cough, but the cough troubled it very little after the operation. The wound was cicatrized at the end of eighteen days. A short time previous to this, a slight dysenteric affection took place, for which the family gave some domestic medicines. A few worms were discharged, and the child soon recovered, the cough wholly subsiding at about the same time.

The result of this case may, I think, be attributed in part to the position of the child when the opening was made. By carrying the head very far back over the cylinder of cloth, the trachea became considerably curved.

In the act of coughing, the bean was suddenly carried from one end of the trachea to the other, and when forcibly propelled, would probably incline to the longest side of the curved tube; the opening being in that part, and as large as the cavity of the trachea, we had some reason to expect what actually took place, the expulsion of the bean. By introducing the finger, and turning it a quarter round, the

elasticity of the cartilages seemed to be destroyed, or at least suspended for a length of time sufficient for our purpose. In an older subject the elasticity might not have been so easily overcome in this manner. The operation never seemed much to affect the general health of the child, and the most difficult part of the after-treatment was to restrain the immoderate indulgence of the appetite for food.

Billerica, Nov. 6th, 1828.

ART. X. *Case of Hernia Cerebri successfully treated by the Sponge Compress.* By J. W. HEUSTIS, M. D. of Alabama.

ON the 26th of March, 1828, I was called upon to visit a negro boy, about eight years of age, who had received an injury on the head. The day had been extremely windy, and many of the old, dead trees in the plantations were blown down. The subject of this article being at work in planting corn, was struck upon the head by the falling of a limb of a tree, and knocked senseless to the earth. I found him in a state almost insensible, with frequent vomiting; pulse small, and the right eye closed. The wound was situated on the inferior and anterior angle of the left parietal bone. Upon extending the opening with a scalpel, and turning up the flaps, there appeared a depression of bone of about the size of half a dollar, pressed down upon the brain, to the depth of about a quarter of an inch, and much splintered and shattered at the circumference. I sawed across the base of the depressed portion with Hey's convex saw, and then succeeded in elevating and removing it without having recourse to the trephine. Several small pieces of bone were driven into the substance of the brain, and were removed with the forceps. After the operation he was able to speak, which he could not do previously. I saw him the third day after the operation; there was then no untoward symptoms; I did not remove the dressings, and as there was some fever, I directed his bowels to be kept open with salts. Five days after the operation I dressed the wound, which showed a disposition to become fungous; I made use of the common dressings. At the next visit I found that the fungus had protruded through the opening in the skull to about the level of the integuments; I therefore removed it with the knife. From this time the growth of the fungus was rapid, so that I was under the necessity of removing it every two or three days. I at length came to the conclusion of letting it remain and take its own course, agreeably to the advice of Mr. ABERNETHY. I

soon, however, had reason to alter my plan, for the fungus continued to increase, and its vessels anastomosing with those of the integuments, made its growth still more rapid, producing at the same time an absorption of the scalp upon which it pressed, and a corresponding deficiency of the integuments. I now resolved to have recourse to pressure For this purpose, having sliced away the protruding fungus to a level with the inner surface of the cranium, I applied to the wound the common dressings, lint spread with basilicon, and over this a piece of dry pressed sponge. All this was confined with a bandage passed moderately tight around the head, and under the chin, and secured by a cap.

As the patient lived several miles distant, I directed the nurse to dress the wound in the same manner, till I returned. At my next visit, two days afterwards, I found that the fungus had not increased, though from the neglect of the nurse in suffering the bandage to become slack, but little diminution had taken place. I now increased the pressure as much as the patient could comfortably bear, and directed the attendants to continue it as long as the fungus should show a disposition to rise. Four days afterwards I visited him again, and now found that the fungus had entirely disappeared, and its place occupied by a hole in the substance of the brain as large as a hen's egg. The surface appeared healthy, being of a whitish, flesh colour, and covered with a glairy exudation; the arterial pulsation had also considerably abated. I ordered all washes to be discontinued, and a simple plaster of basilicon to be applied over the hole in the cranium, guarded with the bandage and cap. I saw him no more for a week, or ten days; the whole was then filled up with a healthy deposition, and the wound in a fine, healthy, and healing state. I have since learnt that this patient has perfectly recovered.

Since writing the above, I have seen in this Journal, for August, 1828, p. 492,* a notice of a case of *fungous cerebri*, successfully treated by Professor Dudley on the same plan. This method of treatment by Professor Dudley, had been previously mentioned to me by my young friend, Dr. Benjamin R. Hogan of Selma, and I must do Dr. Dudley the justice to say that it was upon this information that I had recourse to pressure in the case above-mentioned; I had previously deliberated with myself on the propriety of this practice, but was deterred by the unfavourable accounts respecting it, recorded by surgical writers. These successful instances, however, are sufficient to authorize a further trial, and may serve to remove any existing prejudices in relation to this mode of treatment.

* American Journal of the Medical Sciences.

Other means I had tried without success; the use of the knife gave no check to the morbid action, and was entirely unavailing, and caustic and strong styptic applications are in such cases inadmissible. Pressure indeed seems to be the only remedy that we can safely rely on with any prospect of success. Some caution may be necessary in its employment not to make it so great as to create pain or uneasiness, nor to continue it too long. The length of time, however, that it may be necessary, will be determined by the effect. When the disposition of the fungus to protrude has ceased, and the granulations sink below its proper level, pressure is no longer necessary. The unsightly cavity left in the brain after the removal of the fungus by pressure, might excite the apprehensions of the inexperienced practitioner; but this is a circumstance of no moment; no unfavourable symptoms are occasioned by it; nature is fully competent to the work of regeneration, and in the brain this process appears to progress with more rapidity than in any other part of the body.

Cahaba, Al. November, 1828.

ART. XI. *Reports of Cases, with Observations.* By THOMAS HENDERSON, M. D. Professor of the Theory and Practice of Medicine in the Columbian College, D. C.

ASTHMA.—It may not be altogether unprofitable to call the attention of the readers of this journal to asthma. Where opinions and practice are so discrepant, all cannot be right; some theories are more consistent with sound pathology than others; consequently that practice which is based on the most rational speculations will be most successful. There is, at least, a very great preference in the principles and practice of authors in this disease.

Too little attention has been paid to the work of Dr. BREE on asthma. I have seen no review of it in the medical journals of this country. The observations and cases which follow, may lead to a more general estimation of the work.

If asthma does not occur as frequently as many other diseases, it is not the less worthy of attention. One case of an obstinate, unmanageable disorder is more interesting than a hundred of those ordinarily arising, and easily treated. That asthma has, as to radical cure, baffled the profession, I know full well. It is one thing to carry a patient through a paroxysm: *nature can* do this. It is another to

prevent the recurrence of the paroxysm, or in other words, cure the disease: *art must* do this.

The termination of a paroxysm of asthma proves nothing more than the complete existence of the disease.

Cullen had very slight estimation of the powers of art, when he observes "it is seldom that an asthma has been entirely cured, I cannot propose any method which experience has proved generally successful." A suggestion of Cullen deserves attentive consideration, viz.: the distinction between ordinary, or even aggravated degrees of dyspnœa, and the regular well-marked asthma. This last he most beautifully describes. The disease is as determinate as an intermitting fever, though not so regular in paroxysmal accession. It cannot be, or it ought not to be mistaken for any other disease.

Brown supposes asthma to require a treatment similar to that in gout.

Many very useful suggestions may be found interwoven with Darwin's speculations on the subject of asthma. While the glimmerings of truth reached his mind, and his genius on this, as on every other subject was manifest, yet either he was not well settled as to his practice, or he has given it to us in a form not likely to prove experimentally useful. In humeral asthma, for example, which he ascribes to affusion of fluid, and debility of the pulmonary absorbents, he advises ether and laudanum. He left the disease as he found it, intractable.

Heberden seems to have a better idea of the lædentia than of the juvantia in this disease. Those in this country, who have adopted the "practice in vogue," might profitably have referred to the cautions of the venerable and faithful Heberden. He seems not positively to have improved the practice in asthma.

Several other systematic writers have written learnedly and copiously on asthma; nevertheless, the disease has baffled the investigation of medical men from the time of Willis, whose views were as perfect as those of any author since. Not even the great, luminous, discriminating mind of Cullen was able to throw out such patholo gical or practical light, as would lead to a ready or frequent cure of asthma. Its dreadfully distressing symptoms, obstinacy, and almost certainly fatal termination from direct violence, or in bringing on other diseases, render it a very interesting subject of inquiry.

It has happened that two medical men have suffered with asthma. I allude to Sir John Floyer and Dr. Bree. These gentlemen, impelled by personal affliction, and aided by great abilities, sought for a remedy. Sir John Floyer failed; he suffered for thirty years. Dr.

Bree succeeded completely in curing himself and others. His principles applied to practice have, in my hands, been eminently serviceable; and the opinion expressed with modesty, that he has stripped asthma of much of its character as an opprobrium, will excuse my attempting to draw the attention of the profession to his elegant and valuable work.

It was the opinion of Cullen, nosologically expressed, that asthma originated and existed "sine causa evidente:" in other words, that the chief obstacle in the way of successful treatment was an ignorance of the cause. Bree differs here with Cullen, for he lays down as the most frequent cause of asthma, a very evident one, viz. the effusion of serum and mucus. Another palpable difference between them is, that Cullen depended chiefly on means to palliate the paroxysm, while Bree, duly regarding that, relies mainly for a cure on preventing the return of the paroxysm.

Bree's definition of asthma is "that it consists in excessive action of the muscles of respiration, *without acute fever*, occasioned by irritation of the parts or organs which these muscles are intended to serve." The prominent symptom in asthma is the difficult respiration. Convulsive or inordinate action of the muscular fibre is always the result of irritation; this action is intended as an exertion to free the system from, or to point out an offending cause. Respiration is a process carried on by the agency of a certain set of muscles; when the usual proportion of air is inhaled, the process is natural and easy. When, from some morbid, offending, irritating cause, be that what it may, the lungs are impeded, the action of the respiratory muscles becomes disordered, and dyspnœa takes place. We reason then, a priori, that there is in asthma an offending cause, which excites the muscles of respiration. What that cause is, remains to be ascertained by diligent and minute enquiry into the state of the several organs, which these respiratory muscles are related to.

Dr. Bree divides asthma into four species:—

1st. Convulsive asthma, from effused serum or mucus as the irritating cause.

2d. Asthma from subtle irritating particles and properties in the air.

3d. Asthma from irritating causes in the abdominal viscera: the respiratory muscles, it will be remembered, subserve the operations of these viscera.

4th. Asthma from habit.

I shall consider the first species in this communication. The diagnostic is "a difficulty of breathing, a sense of straitness in the chest,

a wheezing noise, a cough, at first dry, and afterwards attended with copious expectoration."

Bree opposes the opinion of Cullen as to the "*sine causa evidente.*" By a series of facts and authorities, he proves the existence of effused mucus as a cause of this species of asthma. Cullen says it is a *diagnostic*, but Floyer and he overlooked it as a *cause*. Floyer suffered with this species for many years. The state of the pulmonary mucous capillaries is favourable to the effusion of mucus. They are relaxed, and it is poured out. This relaxed state is inferred from the persons most liable to asthma; they are weakly, delicate constitutions, and old persons. All the well-marked cases of asthma I have met with, have been in persons of feeble vascular energy, particularly arterial. Where the effusion is slight, there will not be severe dyspnœa, nor expectoration, for the absorbents take it up. Where the absorbents cannot remove the mucus, the accumulation is continued, the *difficultas spirandi* of Cullen appears, and a paroxysm of spasmodic asthma is formed.

After this brief and imperfect sketch of the first species of Bree, I proceed to relate a case which I think merits record.

Case.—Mr.——, æt. 36, was seized ten years ago, in the month of August, with a paroxysm of convulsive asthma. He has, every succeeding year, been subject to more frequent attacks, until three years ago; since when he has during the summer and fall, been visited by a severe paroxysm once in four weeks, sometimes more frequently. He very seldom has an attack during the winter season.

The fits are well marked. For two days previous to one, he is heavy and sleepy, is nervous and low-spirited, sleeps very sound at night, and is seized about one, A. M. with dyspnœa, wheezing, stricture across the chest, urgent desire for a free circulation of fresh air, copious sweats about the head and chest: these symptoms gradually increase, the lips become livid, the dyspnœa and distress augment to an apprehension of suffocation. There is great effusion of mucus, which produces cough towards morning, with copious, white, frothy expectoration. He has occasionally spit up a *dark* frothy fluid, and once or twice, when violent cough attended, a little blood was thrown off.

The expectoration of the mucus gradually relieves the violence of the paroxysm, and he is better until the succeeding night, when the same routine is gone through: at last, after three nights, he is left weak and without appetite, with excessive sourness all around the chest, from the exercise of the muscles to keep up respiration, and gradually recovers.

The bowels are usually regular during the intermission, until a short time before the paroxysm, when he is slightly costive. During the fit, he has head-ache and disorder of the stomach, the pulse is weak and frequent, skin cool.

His father has the same form of asthma.

This gentleman called to see me on account of his child. As he came up my stairs, I heard his breathing, and on enquiry received the above account. My venerable and learned preceptor, Dr. SPENCE, was then on a visit to me, and we encouraged Mr. M. to enter on a course of treatment. He was to inform me of his next attack.

July 26th.—Had the first paroxysm of the series last night; has been sleepy for several days; to day he wheezes and shows great bronchial effusion; pulse soft, weak, and intermitting. R. Pulv. ipecac. ℈i.—antim. tartar. gr. i.—M. To be taken to night on the accession of the paroxysm; early to morrow morning drink very strong coffee.

27th.—Took the emetic at 1 A. M.; threw off a great quantity of white frothy mucus, and nothing else. The emetic relieved him entirely from wheezing and dyspnœa, and he slept comfortably till day-break. Then the symptoms returning in some degree, he is heaving the chest and shoulders very much in breathing; wheezes and coughs up much phlegm; skin very cool and moist; pulse weak and soft; *he always passes a double quantity of pale urine during the attack.* R. Pulv. rad. colomb. ℥ss.—pulv. rad. zingib. ʒss.—aq. fervent. ℔ss.—M. Digest for an hour, then take two table-spoonsful every two hours till 9 P. M.; take very strong coffee during the day with light digestible diet.

28th.—Continued much oppressed till he took the second dose of bitter infusion, when great relief was afforded; the urine became higher coloured, and diminished in quantity; dyspnœa so much better as to enable him to set upright with ease; and what uniformly indicates the subsidence of the paroxysm, he feels great soreness around the thorax, which he says is in the muscles, and is caused by their laborious duty in keeping up respiration during the asthmatic period; bowels regular; pulse soft and intermitting; lips not livid this morning; is relieved. Ordered the bitter infusion as yesterday, and R. Rubigo ferri. ℥iss.—pulv. rhei. ʒi.—pulv. zingib. ʒiss.—mel despum. q. s. ft. electuar. Begin to-morrow and take a tea-spoonful three times a day. R. Elix. vitriol, ℥i. Take fifteen drops in cold water after each dose of the electuary.

August 2d.—Has been taking the medicines; the electuary makes his stools black and thin; feels chilly in the evening; is excessively

sore all over, as if he had been severely beaten; pulse frequent and weak; has cough with tough expectoration every morning, and this is the case for several days after a paroxysm; the appetite weak. Omit the electuary for three days. ℞. Tinct. scill. ℥ss.—acid. nit., ext. hyosciam. aa ʒi.—aq. pur. ℥viij.—M. Take a table-spoonful three times a day till the mucus is expectorated, and till the urine is natural. Then resume the steel. Continue daily the use of strong coffee, and use ginger freely in every way. Light, plain, nutritious diet, and moderate exercise, avoiding exposure.

October 17th.—No symptoms of asthma since last report, although he has had a severe cold which has invariably heretofore produced it. The rhubarb purged him, and on leaving it out he became costive; one scruple was added to the electuary. The expectorant mixture relieved him very much; the vitriolic acid agrees with him; chest strong; respiration free; appetite good; health and spirits better than for five years past. *During the violent cold he lately had, the urine became pale as in the asthmatic paroxysms.*

1821, *November.*—No return of asthma; no oppression from bronchial effusion.

1823. *January.*—Entirely free from asthma; enjoys fine health and spirits.

1826.—Continues well; has gone through great fatigue and exposure in travelling for two years, without any disease.

Remarks.—The disease was of ten years standing when I was called in. His father had been similarly affected; the paroxysms were frequent, distinct, violent; he utterly despaired of recovery, and had resigned himself to an indefinite protraction of most dreadful suffering. The usual round of antispasmodics, ether, assafœtida, opium, &c. had been given; he had been attended by several physicians. He was a worthy, intelligent, resolute man, almost despairing of ever being able to subserve the interests of a large family. I explained to him my views, stated former success in treating a case, and he assured me he would persevere for any period in the use of remedies.

I have completely succeeded in removing asthma in two other cases. One a delicate female with leucorrhœa; weak pulse; and every sign of debilitated habit. The paroxysms were frequent; perfectly well-marked; could be mistaken for no other disease; attack at night, repeated the ensuing night; disappearing with copious effusion of mucus. The other case was a minister, of very studious habits, delicate constitution, weak arterial action. He was relieved, and has good health. The practice pursued was as in the detailed case above, with slight modifications.

I may at a future period give further reports on other forms of asthma.

Rupture of a Large Tendon.—Negro Robert was walking with a large piece of wood on his shoulder; in going down a slight descent, he fell on one knee, with considerable force; on throwing the wood from his arm, he attempted to rise, but found he could not walk. He was taken to a house where I saw him one hour after the accident.

He complained of no pain any where, but at the spot where the tendon of the extensors of the leg unites with the patella. The flexors bent the leg, which he could not prevent; when the limb was flexed he could not straighten it. On examining the upper edge of the patella, my hand sunk into a deep hollow, so that I could run my fingers under the end of the ruptured tendon of the large muscles of the thigh, and raise up the tendinous extremity. The nature of the injury was now obvious.

The treatment pursued was the same as that recommended for fractured patella. The limb was extended and kept so with a splint from the hip to the foot.

I removed the splint after it had been worn for five weeks, and found that the limb could not be flexed. The dressings were removed; an oily friction daily was substituted; attempts were made to bend it gently every day, and under this plan he entirely recovered the free use of the knee-joint.

At the time of the accident no injury could be discovered in the joint; it could be freely moved without pain.

Case of Cough from elongated Uvula successfully treated by Excision of a portion of the Uvula.—In the year 1814, the following case came into my hands.

Mr. ——, aged forty, served a tour of militia duty at Norfolk, as an officer. He contracted a gonorrhœa; the disease was apparently cured, but he thought it was never perfectly removed. I speak of his own impressions.

Six months before applying to me he was taken with sore throat, ulcerated, excavated, ragged looking tonsils. The disease extended to the uvula, inducing inflammation and elongation.

He had no fever nor pain. The stomach and bowels were irregular in their functions: the tongue was slightly furred; the pulse increased in frequency.

But the symptom which occasioned alarm was excessive and con-

stant coughing. The irritation induced by the cough, occasioned great emaciation, to such a degree that his friends all supposed him in consumption, and his case incurable.

The ulceration of the throat was improving, but the uvula was so long, and the end almost cartilaginous, that it was evidently the cause of the cough. I advised and performed the excision of the part. I can never forget the confidence with which the patient immediately exclaimed "I am well," nor how suddenly the cough left him.

I gave him a slight course of blue pill, which removed all the symptoms by restoring the functions of the stomach and liver, on the irregularity of which I supposed the state of the throat to depend.

I should have long since published this case, but when the phthisis occasioned by elongated uvula was noticed some years ago in the Philadelphia Journal, I sent notes of it to a distinguished member of the profession, to be used as he might think best.

I have since cut off an elongated uvula which I was sure produced cough and irritation. The gentleman left town immediately after the operation, and I heard nothing of him afterwards.*

Tracheitis.—Richard Long, ætat five years. His mother had been subject to croup. The child has florid complexion. To-day,

* We make the following extract from Wiseman's Surgery, published in 1676. "There also happeneth an Elongation of the *Vvula* through the abundance of salivous Humour flowing upon it: in which case, if it touch upon the root of the Tongue or upon the *Epiglottis*, it causeth a frequent hauking, and in progress maketh a vexatious Catarrh.

"Such was the case of a Servant-maid to a Noble Lady in the Country. Various Medicaments had been prescribed ineffectually: I being in that Family was desired to see her. Looking into her mouth, I saw the *Vvula* hang dangling upon the root of the tongue. It was not swelled nor inflammed. I supposing it the cause of her Distemper, took hold of the low part of it with my *Forceps*, and at the same time cut it shorter with a pair of Scissors. It did not bleed a Spoonfull: and afterwards it cicatrized of it self, without application of any kind of Medicament, and she was thereby freed of the Defluxion. Such another I cut off in a Servant of his *Majesty* belonging to *Hampton-Court*, and some others who were so afflicted, and thereby freed them of their catarrh, when all other Remedies failed." p. 333.

We take this opportunity of distinctly observing, that Professor Physick has never claimed the merit of being the *first* to discover that obstinate coughs were produced by elongation of the uvula, and to propose its truncation for their cure. The credit is, however, unquestionably due to him, of attracting the attention of the profession to the subject, and of devising the best instrument for the operation that has as yet been proposed for that purpose. I. H.

March 28, 1827, hoarseness and febricula, skin warm, the cough ringing and dry. Parents administered a mixture of antimonial wine and paregoric, which produced perspiration; and except a dry cough, the child passed a comfortable night.

29*th.*—This morning took magnesia, which operated several times during the day. The child appearing as well as usual, except the cough; for this, oxymel of squills has been given during the day. 7 P. M. Fever came on; skin hot; cheeks highly flushed; restlessness; cough hard, ringing, and constant; a hissing noise in respiration; great dyspnœa on attempting to rise. The parents administered ℥iij. vin. antimon. which vomited the child freely, two or three times; mucus ejected; pediluvium satisfactorily practised. No relief being afforded, I was called at 11 P. M. when the child laboured under exquisitely formed tracheitis. The patient, though asleep, breathed as through a very contracted tube, with a hissing noise, and occasionally rattling a small quantity of loose mucus.

There was evidently straightened, frequent, and difficult respiration. The pulse frequent, full, hard; skin hot and dry; cheeks crimson flush. On waking, the cough proved entirely characteristic of croup, and the least exertion occasioned great increase of dyspnœa, and the whizzing sound in breathing, with corresponding increase of frequency of the pulse. Hoarseness of voice, restlessness, and tossing while awake; in short, a case of high febrile inflammatory action, with all the local phenomena of fixed croup. Under these circumstances a vein was opened, and blood drawn amounting to ℥vi. till the pulse became weak and frequent; restlessness and paleness indicated the approach of syncope. The blood flowed in a rapid, full stream, and manifested a redness which I have often seen accompanying cases of such decided inflammatory action. Ordered ℞. Antim. tart. grs. iii.—merc. dulc. ℈j.—pulv. ipecac. grs. vi. M. et divid. in pulv. No. VI. One powder every fifteen minutes, in syrup, till full vomiting. The first powder produced slight, and the second free vomiting; they were discontinued. The matter ejected was a thick, tenacious mucus, with shreds or flakes of a white matter, entirely distinct from the mucus, and more resembling lymph. Vomiting continued with short intervals for three hours. When the respiration was free, the cough evidently less ringing and hard, and the immediate danger from croupy suffocation subsided.

30*th.*—2 A. M. But now came a remarkable change in the whole aspect of the case. The voice was clear; respiration free; vomiting of watery fluids, such as the drinks taken in. Two copious stools, bilious, feculent, offensive discharges, with mucus. The pulse fre-

quent, feeble, thready; the face pale, countenance sunk; eyes hollow; jactitation, with great thirst; the stools now assume a watery aspect, like the fluids swallowed, and there was every appearance of complete subduction of local and general inflammation. There was marked evidence of loss of the stomach's tone and of the heart's power, while the mind was distinct. After each vomiting and stool, there is now manifest collapse and alarming flagging of the vital power. Skin cool and partially moist.

Here was a great change and a critical case, and totally different from the just previous croup. I ascribe the rapid sinking of the heart's action, and of the general power, entirely to the deleterious effect of the tartar emetic. Let the reader remark on the state of inflammatory excitement just preceding the treatment, and the utter prostration occurring in two hours from the loss of ℥vi. of blood, and taking *one* grain of tartar emetic, *six* of calomel, and *two* of ipecacuanha; a prostration attended with ghastliness, cold wrists, threatening speedy dissolution. The evacuations from the bowels were mere watery exhalations, from the relaxed intestinal capillaries, nothing like secretion of bile, or fæces, or mucus appeared. The indication now was to bring up the system, as promptly and decisively as two hours before it was to reduce it. I therefore directed *two tea-spoonsful* of pure warm *claret* wine, with *two* drops of laudanum, and gave with my own hand warm claret and water, until the pulse became fuller and the patient manifested revival. The astringency of the wine, and the power of the opium, restrained the watery stools, while the grateful cordial so restored the action of the heart, as to convince me it was within the power of judiciously exhibited stimulus. The patient perspired, coughed more easily, and fell into a quiet sleep.

6 A. M. Left him improving. I directed barley-water, with lemonade, and to rub his throat externally with mustard and spirit. Noon. Has vomited slightly; breathes easily; cough harassing, but looser; no stool; complains of pain in the right side; pulse frequent, soft; skin natural and moist; tongue clean, moist; says he is better. Has drank barley-water and taken sugar-candy with a little mint-water. Ordered syrup. scill. comp. gutt. xv. secunda hora sumend. 4 P. M. Slept well; coughed less; pulse frequent, soft; otherwise as above, but without stool. Evening. Slept soundly, and perspired freely, so as to render warm bathing unnecessary; coughed less. Continued syrup. scill. comp. Midnight. Cough less; but always wakes with a remarkable hallucination, requiring some time to bring about rationale; rubs his nose, eyes, and eyelids very much; no evacuation. Directed an injection in the morning if costiveness continued.

31*st.*—9 A. M. Rested well last night; cough diminishing; waked without wildness; no evacuation; tongue very white; pulse frequent, soft; pupils dilated; complains of objects in the room being at great distance; face flushed; symptoms of irritation. Ordered senn. infus. with crem. tartar. 6 P. M. Pulse through the day 125, with an abrupt jerk, but not hard; awoke to day frightened, screaming, and confused; tongue still very white; skin cool, but limbs in motion and restless; still rubs his nose and eyes; cough frequent, but loose; senna operated once freely; continue it in increased doses, and pediluvium at night.

April 1*st.*—6 P. M. Slept well last night; bowels freely evacuated; tongue much cleaner and moist; pulse slower and soft; skin cool and moist; cough less; pupils natural. Has taken spir. nit. dulc. ℥ss. tertia hora, with fine effect.

2*d.*—2 P. M. Passed a restless night with dry coughing; complains of bright vision; heaviness in the head; had at 9 o'clock this morning a chill followed by high fever; frequent, strong, hard pulse; pain in the right side; tongue not white but yellow; bowels costive; no stool since yesterday. Ordered venesection to ℥v.—merc. dulc. grs. v.—mucilage of gum Arabic—flaxseed tea, with minute doses of antim. wine for common drink. 9 P. M. Has had one large stool, which, with the bleeding, much allayed the fever; pulse frequent, but not so hard, or strong, or full; skin cool and moist, and tongue cleaner, but cough incessant and harassing. Ordered a dose of liquorice, antim. wine, and paregoric in mucilage every hour; blister to throat if not less cough in two hours; injection at day-break, unless a stool previous.

3*d.*—9 A. M. Took three doses of the anodyne mixture; it composed him, so that the blister was not necessary; cough much less; very little febrile, but much irritative action; no stool; skin moist; tongue cleaner; some unpleasant feelings about the head and eyes. Ordered five grains of calomel with ℥ss. ol. ricin., and after its operation the anodyne mixture. 6 P. M. Purgative operated three times; is much better in every respect; take the anodyne.

4*th.*—6 P. M. Has passed a tolerably quiet night; cough less harassing, and loose; pulse still frequent; and little fatigue inducing dyspnœa; bowels loose; skin sweating; is very cheerful, and countenance bright.

The above case is remarkable, 1st, for the croup; 2d, for the immediate transition to collapse from the poisonous effect of tartar emetic; 3d, for the immediate relief given by the claret wine, the vegetable astringent and cordial, and the laudanum; 4th, for the singular state of vision; he said the objects in the room were at very great

distance; and again he complained of the bright vivid colour of things about him; 5th, for the resumption of inflammation in the lungs and pleura after the collapse. On the whole the case may be useful to the young practitioner.

I was aided in the treatment of the latter periods of the case by my intelligent and valued friend, Dr. Lovell, the surgeon-general of the army.

Perhaps the antimonial wine taken at first may have predisposed the child to the severe effects of the grain of tartar emetic I gave.

I once saw a child eighteen months old, die from a smaller dose of tartar emetic than I administered in the case of the son of Col. Long.

Washington, D. C. Dec. 1827.

Art. XII. *On the Impropriety of Ergot in Placental Cases.* By Samuel Jackson, M. D. of Northumberland.

In Vol. II. of this Journal, p. 89,* we ventured to question the propriety of using ergot for the purpose of exciting the placenta-expelling pains, upon the principle that it is impossible at any time to ascertain certainly, whether the contraction of the uterus is regular, and of course, whether the medicine is to do good or evil; to propel the placenta or to compress and grind, and retain it with redoubled power. After more experience and much reflection, we are still of the same mind; and now beg leave to express our opinions more explicitly than before, being the more willing to obtrude this subject once more on the reader, as we have been informed that our former publication was not fairly understood. It has been supposed that we denounced the use of ergot in the irregular contractions merely, in which no practitioner would ever use this medicine; whereas a more careful perusal would have informed the obtusest reader that we object to it in all cases whatever of retained placenta, because it is impossible to ascertain in any case, whether the state of the parts within is suitable to its operation. As we are here at variance with all authorities, many of which ought to be respected far beyond our own, we must implore the reader's patience, while we remind him that "the race is not always to the swift, nor the battle to the strong, but that time and chance happeneth to all men."

There are five states of the uterus and placenta, any one of which

* American Journal of the Medical Sciences.

may exist without any possibility of ascertaining the fact; and if it do exist, the ergot must prove a very serious, and often a deplorable injury. *First*, the hour-glass uterus; *Second*, the longitudinal contraction; *Third*, the morbidly, or otherwise too adherent placenta; *Fourth*, the depressed fundus; *Fifth*, a torpor of the uterus, or an insusceptibility of ergotism from long-continued labour, or other causes not understood. Under the two heads of hour-glass and longitudinal uterus, we here include all irregular contractions whatever, by which the placenta is retained, as they all fall under the same pathology and general indications of cure, whether the coarctation pervade the whole volume of circular muscle, or be confined to a band of uncertain width, and whether this last be situated in the neck or the body.

Of the hour-glass and longitudinal uterus, it might be supposed they could be ascertained partly through the medium of the abdominal parietes, and partly by the common examination per vaginam with the mere finger. Thus it may be said that when the uterus reaches high up in the abdomen, and is contracted laterally, when there is no hæmorrhage, and the placenta cannot be reached by the finger, these irregular contractions are to be suspected. But every one must know that these circumstances do all very frequently obtain, when the contraction is at least sufficiently regular to expel the placenta without help, and therefore that any examination of this kind may often deceive. It may sometimes succeed in strongly marked cases, when the abdominal parietes are thin, and the accoucheur endowed with the *tactus eruditissimus;* but as a standing rule, and in ordinary hands, we hold that these contractions cannot be ascertained short of introducing the hand.

The uterus is sometimes found large, hard, and globular, and the unnatural stricture is so formed that the upper cyst lies buried among the intestines under the great mass of the womb, and though small, it may contain the greater part of a small placenta. This we have known in two instances. The womb felt imperfectly but regularly and firmly contracted when examined above the pubes.

When the uterus is felt to be well contracted, there may be a stricture near, or at the neck, which grasps the placenta, and prevents its expulsion. This mass is perceived by the finger, is felt to protrude a little with every pain, and hopes are entertained that it will be quickly delivered; but when the accoucheur has waited till all are out of patience with such unexpected delays, he introduces his hand and finds a stricture near the cervix uteri, and the prolonged placenta still adhering. Denman says that when the placenta is detached and fallen into the vagina, it may be left there to be expelled

by the after-pains. But it is very certain that when it has all the proofs possible of being detached, and even protrudes a little extra vaginam, it may yet be held fast by a contraction of the cervix uteri, and the entire separation be thereby prevented. This we have known, both in our own practice, and that of the midwives; it is also mentioned by Dr. Dewees, and particularly treated of in his System of Midwifery.

In the longitudinal contraction, the uterus is felt through the abdominal parietes to be firm, globular, and well contracted; the placenta is felt by the finger, and appears to be descending with every pain; but when at last the hand is introduced, this mass is found to be embraced by a long horn-like process which grasps a portion of it and prevents its entire separation.

The kind of contraction which is present, cannot therefore be ascertained by any means that we know of, and if ergot is given, it must be at the risk of doing evil, rather than with the certainty of doing good. It is very true that in many cases, nothing could possibly be more appropriate, but to ascertain that if such be the case in hand, we hold to be altogether impracticable. Thus, a few nights ago we presumed that the uterus was most irregularly contracted; it felt as though there was a long process passing off in the direction of the spleen, and the placenta could not be reached with the finger, though the pains were frequent and pressing. On proceeding to the manual extraction, the uterine cavity felt regular, and the hand with the placenta was very gently expelled by a single pain. But on the contrary, we shall relate a case of hour-glass uterus in which there was every reason to believe the contraction to be regular, and therefore we tried the ergot once more in compliance with the best authorities, though altogether in contempt of our own principles.

Mrs. G. of G. was delivered of her first child about two months ago, after a tedious and painful but natural labour. She was very young, weak, and excessively irritable from the first, for which reason we did not proceed to the manual extraction as soon as we should have otherwise done. The womb was felt large, globular, hard, above the pubes, and the placenta, *as was supposed*, was reached by the finger. The natural pains did not supervene within one hour, though frictions had been frequently used, and therefore we gave thirty grains of ergot, in divided doses. Here we could not believe there was an irregular contraction, for the uterus was so large and globular, it appeared hardly possible that a portion of it could any where exist sufficient to form a separate cyst; it could not be at the fundus or body, which were felt so very distinctly, nor at the neck, for something

was felt by the tip of the finger, which was, as we supposed, the whole mass of the placenta.

The ergot brought on its peculiar depressing pains, but they gradually diminished after an hour, without having in the least protruded what was supposed to be the placenta, or having changed the shape of the womb, as felt above the pubes. The abdomen now began to swell, and though the woman was so irritable, from the first, as hardly to suffer us to touch her, we determined to wait no longer. The supposed placenta was discovered, on introducing the hand, to be a quantity of blood collected in the membranes, and it was found that the real placenta, which afterwards proved to be unusually diminutive, was enclosed in a very small upper chamber that seemed to reach almost under the sternum, and the contraction was so close that it tightly embraced the cord. Here was a deplorable business for a delicate and excessively irritable young lady, but there was only one method of proceeding, however painful. She passed at least fifteen minutes of most cruel suffering before she was relieved. Contrary to our expectations, she had a speedy recovery, and without any other backset than two or three fits of an habitual intermittent. How much better would it have been to have tenaciously adhered to the principles laid down in our former paper, and thus to have removed the placenta at the end of an hour, sooner or later! It is true, there might have been at that time, and no doubt there actually was, an hour-glass uterus; but it may be fairly presumed that the contraction was not so violent, and it is fully certain that all the parts were in a more fit state for the manual extraction, and the patient's mind far better prepared to suffer.

In cases of the morbidly adherent placenta, it is probable that some of the organ might be cast off by the powers of the ergot, and if the greater part should fortunately come away, and the practitioner be content with this state of things, there is hardly a doubt but that the rest might be separated by the operations of nature. This we conceive would prove more fortunate than the detachment by manual violence. See Smellie, Vol. II. Collect. xxiii. Case 2. But should the whole placenta remain, or the greater part of it, the patient would have to suffer all the torment inflicted by the ergot, and also to undergo the manual extraction, now rendered tenfold worse by delay and irritation.

When the fundus is depressed, and the womb in danger of inversion, of which the attendant can know nothing till the hand is introduced, the mischievous operation of the ergot is painful, even in contemplation. But it will be said, that the careful practitioner will

always ascertain this by an examination above the pubes. This is not absolutely certain in the mere depression, however possible it may be to do so in the complete, and even in the partial inversion. But even here, Denman says that in one case, (that is of inversion,) that was under the care of a person who might have been allowed to be a competent judge, and expected to act more wisely, when he applied his hand to the abdomen, the recession of the inverting uterus was mistaken for its contraction, and it was actually inverted, though he entertained no suspicion of what had happened. If this could happen in the hands of such a person as Denman speaks of, and that too in case of *inversion*, surely the mere *depression* might never be detected by half the practitioners, male and female, of the obstetric art.

But it may be said that this state of the uterus must always be within reach of the finger; certainly not always, though in deep depressions it no doubt may. Dr. Dewees, System of Midwifery, 3d edition, p. 486, says, "I found the placenta *just within reach of the finger*, and attempted to withdraw it, but it gave great resistance and extreme pain. I now *introduced my hand*, and found a tumour resembling in shape and size the swelling at the bottom of a common black bottle, over which the placenta was spread." And again, p. 490, he says of another case, "I took hold of the cord and merely tightened it, on which she begged me to wait, as it gave her great pain. I traced the end to the vagina, and found at the os externum a placenta, I thought unusually dense and large. On gently attempting to withdraw it, as I thought it loose in the vagina, I found uncommon resistance, which I attributed to its bulk, and desisted from further effort, hoping the uterus would, by contracting, push it completely down. In this I was disappointed. I now expected that a more than common cause detained the placenta in the vagina, and began a more complete examination. I pierced the substance of the placenta with my forefinger, and tightened the cord; beneath the placenta I perceived a round, hard substance, which I but too quickly discovered to be the fundus of the uterus inverted."

The above cases show most clearly that the depressed fundus may exist without being ascertained by a common examination above the pubes and per vaginam with the finger only. To expatiate on the action of ergot in such cases is wholly unnecessary.

In our fifth and last state, we supposed the uterus to be insensible, or nearly so, to the operation of ergot. It happens that we never gave a dose of this medicine for the expulsion of the child that did not bring on strong pains; but in placental cases we have often been dis-

appointed, though the medicine was taken from the same parcel. It has sometimes failed entirely to excite the uterus, and not unfrequently it has superinduced some grinding pains that very soon died away.

There is another point of view in which ergot may not be considered entirely safe in placental cases, even when all the parts are in the most favourable state for its just operation. It may excite pains out of all proportion to the object to be attained, and which may not very soon subside. When we give this medicine for the expulsion of the child, its power may be in a great measure exhausted by the time the labour is finished; not so when given to expel the placenta, as this process is often quickly finished, and in such cases the ergot may expend itself in furious spasms or throes which may not be easily subdued, and may even end with a prolapsus, if not a procidentia uteri. We have never seen any thing similar, but Dr. Dewees, System of Midwifery, third edition, p. 620, and also in Vol. I. of this Journal, p. 258,* relates a case precisely to the purpose. "A lady aborted at a little beyond the fifth month with twins. The involucra did not come away for several days after the expulsion of the embryos; but as they came off in *one mass* very soon after taking twenty grains of ergot, the lady could not be persuaded but that one of the placentæ remained, and desired that another dose of the ergot might be given her. This I positively refused, but at the same time assured her that nothing remained to come away. She was, however, not convinced; for I had scarcely left the house before she caused another portion of the ergot to be given her. The consequences were a repetition of violent pains, and the escape of a considerable portion of the uterus through the os externum." In the next page the doctor says, "I am therefore convinced that much future injury has been sustained by giving this medicine in cases where there is little or no resistance to be overcome; for in such cases the increased efforts of the uterus continue after the child is delivered." This reasoning, we presume, does not reach those cases in which ergot ought to be given in very small doses merely to produce a tonic effect.

Now, when we take into consideration the various circumstances in which ergot cannot be used with propriety, any one of which may exist without the knowledge of the practitioner giving this medicine, and add to these the cases in which it will merely distress the patient with its peculiar grinding pains, and fail at last to effect its object without any assignable reason, we are ready to conclude that it is by

* American Journal of the Medical Sciences.

no means applicable to the expulsion of the placenta. The only reason to be assigned for the use of ergot is, that it may supersede the painful expedient of manual extraction. But here we must not forget that ergot itself is a painful expedient. The throes or spasms which it brings on are not natural, and are indeed hardly similar to labour. The woman always knows the difference, and expresses her impatience with them. This difference obtains more clearly in placental than in child-birth cases. Now suppose that an accoucheur has fifty cases a year of the placenta retained too long, and that he gives ergot in every one—the totality of suffering will be very great, and far greater than if he were to proceed to the manual extraction at a proper time; as the medicine must in some cases fail, most generally distress the patient even when it succeeds the best, will sometimes add strength to the irregular contractions, and will at all times occasion an anxious delay.

Nor is the influence of one example to be neglected in these cases. It seems to be the part of the midwives to abuse all the learning they casually acquire from the regular accoucheur, and most certainly they will not fail to provide themselves with a medicine apparently so very convenient. Whereas it is their business to send for further help in all cases of retained placenta.

After all that has been said, it must be confessed that the necessity of using either ergot or the manual extraction bears but a very small proportion to the totality of cases, and that a still smaller proportion of these will be subject to the various casualties which oppose the use of ergot; consequently an accoucheur may pass through a long and busy practice without encountering any of the evils, or doing any of the mischief we have here set forth. Hence, if the experience of others is in favour of giving ergot in these cases, it must surely be considered as owing to a more fortunate succession of suitable cases; the very next that occurs may disappoint their hopes, and change their opinions, may bring themselves and their patient into all the distress of an hour-glass uterus rendered tenfold worse by the action of ergot, and teach them the necessity of acting by known principles in pathology, rather than by the dictates of unprincipled experience.

Northumberland, Pa. Dec. 1828.

MEDICAL EDUCATION AND INSTITUTIONS.

ART. XIII. *Account of La Charité at Paris.* By ELISHA BARTLETT, M. D. of Lowell, Mass.

THIS hospital is considered the second in importance of the French capital. It was founded by Maria de Medecis in 1602, and its history, together with that of its church, from this time down to the revolution, is too long and uninteresting to be detailed in this paper. During the revolution it was called "*Hospice de l'Unite*," but since 1815 it has taken its former name. In 1786 there were two hundred and eight patients; there are now more than three hundred, upwards of two-thirds of which are male. This hospital, on account of its situation, its large and airy wards, and the judicious arrangement of the patients, has always given, in regard to its mortality, more satisfactory results than most of the others. The following statement of the average mortality in the principal hospitals, from 1804 to 1814, may not be uninteresting.

At La Charité, 1 in $7\frac{11}{100}$.—Hôtel Dieu, 1 in $4\frac{41}{100}$.—La Pitié, 1 in $4\frac{1}{4}$.—Saint Antoine, 1 in $5\frac{1}{4}$.—Cochin, 1 in $7\frac{1}{4}$.—Necker, 1 in 6.—Beaujon, 1 in $5\frac{1}{4}$.—Children's 1 in $4\frac{1}{4}$.

The service in the surgical wards is performed by BOYER and ROUX, of whom we shall speak more at length hereafter. The principal physicians are FOUQUIER, LERMINIER, and CHOMEL. I am indebted to M. RATIER's practical formulary of the hospitals of Paris, for the following observations on the character and practice of M. Fouquier.

"This professor, whose visits are assiduously followed by a great number of students and physicians, exhibits in his practice that prudent *temporization* which knows how to leave something to the conservative efforts of nature, while, when it is necessary in order to save his patient from certain death, he is prompt and energetic in his measures. An attentive and scrupulous observer, joining a rare ingenuity to an exercised "*coup d'œil*," he distinguishes himself by the exactitude of his diagnosis, and the certainty of his prognosis, which he never gives till after a minute and profound examination. Far from seeking to astonish by a pretended perspicacity which would divine the causes of disease at first sight, he teaches, on the contrary, his students to carry into their investigations of diseases, a minute attention and a wise deliberation, which shall conduct to positive results, or at least enable them to avoid those errors which compromise the dignity of the art. His therapeutic is simple and rational, and if he some-

times gives himself up to experiment, it is always with that prudence and reserve imposed by conscience and responsibility.

"An absolute stranger to the spirit of system, and following the track traced by observation and experience, he has long taught, both in his courses of theory and practice, the frequency of phlegmasiæ, and the necessity of insisting on the antiphlogistic treatment, even when these diseases have passed into the chronic stage. He has also taught that the essential fevers of the ancients were very often merely symptomatic of local inflammation, though, in opposition to the doctrine of Broussais, he still thinks there exist essential fevers, that is, fevers in which the excitement is general, not showing itself in any one part sufficiently predominant to be considered the local cause of the disease. He has long exerted his authority against the abuse of tonics and stimulants in the treatment of acute maladies.

"In many diseases M. Fouquier follows a method peculiar to himself. In the painter's colic, for example, he has departed from the beaten track, and has added to a treatment of which long experience had demonstrated the efficiency those modifications pointed out by a rational therapeutic. Acute rheumatism is considered by him as an inflammation, and is treated accordingly; but he prefers the application of leeches and of cataplasms, aided by drinks lightly diaphoretic, and warm baths, to general bleeding; the latter, according to him, being followed by a long and tedious convalescence. This treatment has often succeeded in chronic articular rheumatism, which had produced partial anchylosis. In neuralgias in general he employs bleeding, general or local, followed by vesication, not on the course of the diseased nerve, as directed by Cotugno, but over the region of its expanded extremity.

"The number of *nervous* diseases so considerable for those who observe superficially, is very much diminished by this practitioner, who endeavours as far as possible to refer each series of symptoms to the lesion of an organ. Notwithstanding this reduction, however, those affections to which we are still obliged to apply the denomination *nervous* are sufficiently numerous. M. Fouquier admits the existence of maladies purely nervous, that is to say, in which our means of investigation have not yet been able to discover any material lesion, to which as a cause, they can be attributed. He professes this opinion in regard to asthma, which M. Rostan, of Saltpêtrière regards as dependant on aneurism of the heart. In the treatment of nervous affections, such as epilepsy, hysteria, &c. he uses the narcotic extracts, as belladonna, hyosciamus, lactuca, and the prussic acid.

"The original predisposition to tuberculous and cancerous affections has been the subject of much controversy. M. Fouquier believes that in the greater number of cases this predisposition exists, but that the diseases ordinarily accompanying it, may manifest themselves altogether independent of such predisposition. In aneurisms of the heart and great vessels, his treatment consists in local or general bleeding; usually he has recourse to the latter in order to unload the vascular system, which he repeats more or less frequently according to the facility with which the waste of blood is repaired. He continues this treatment to the termination of the disease, and he has often seen venesection apparently save the patient from impending suffocation. This evacuation, far from augmenting the symptomatic anasarca, seems on the contrary to promote

the absorption of the effused fluid, and to second the action of diuretics. When this absorption is a long time delayed, and the skin has become very much distended, he makes with a sharp lancet incisions sufficiently deep to reach the meshes of cellular tissue, which produces a rapid diminution of the dropsical swelling. Long experience has demonstrated to this practitioner that there is no danger of the supervention of gangrene, but an indispensable condition is to divide entirely the skin instead of making a superficial incision. To these means are added a light regimen, some diuretics to arrest the progress of infiltration, and finally, preparations of squill and digitalis, which are considered not only diuretic, but proper, in acting on the sensibility of the heart to diminish the energy of its contractions.

"M. Fouquier has published but a small number of memoirs, but he has imparted to those persons who have attended his clinical lessons, the results of his labours on various points of practical medicine, and of his researches in relation to the properties of many articles of the materia medica, particularly the nux vomica, acetate of lead, the extracts of belladonna, cicuta, hyosciamus, stramonium, and lettuce, of the rhus radicans, the distilled water of the cherry-laurel, and prussic acid; researches, some of which have been already published, and the others of which will soon be presented to the Royal Academy of Medicine."

The following is a brief abstract of the most prominent points in the practice of M. Lerminier, communicated by himself in a note to M. Ratier.

"I treat continued fevers by simple diluents, so long as no precise indication presents itself to be fulfilled. If there exists an assemblage of inflammatory symptoms, a state of plethora, I direct a general bleeding; if sanguineous congestions exist, I remove them by the application of leeches. It is to these various congestions that my attention has been particularly called in the course of fevers. I have often, for example, applied with great advantage leeches to the neck, or behind the ears, in the advanced stages of fevers, and even at a time when adynamic symptoms had become prominently marked. Whenever there is an abundant diarrhœa, I moderate or suspend it by the application of leeches to the anus. I have often seen after the employment of this mean, the stupor disappear, and the vital powers renew themselves. But when there exists a real adynamia, I have recourse to tonics, and the aqueous infusion of cinchona is the preparation which I most generally use. I apply at the same time revulsives. When I observe that assemblage of symptoms known by the name of *bilious*, I do not hesitate to employ emetics; they are particularly efficacious in abridging the cause of the disease.

"I combat acute rheumatism by general bleedings, *which I repeat a great number of times*, until the buffy coat has entirely disappeared from the blood or has become much less evident. Leeches in rheumatism relieve very well the pain in the part where they are applied, but at the same time it appears in another situation; this never occurs in opening a vein. I often hasten the resolution of certain pneumonias, which have a tendency to pass into the chronic stage, by substituting for simple demulcents some light tonic, and particularly a decoction of polygala and an aromatic confection. In painter's colic I follow

to its full extent the ancient treatment of the fathers of La Charité. I employ it with success, even in those cases where there exists considerable febrile excitement."

The practice of M. Chomel is much like that of M. Fouquier, except that he shows himself a more zealous partizan of the doctrine of fevers, and of the employment of tonics and stimulants.

Statistical Table from the Annual Report of 1822.

Whole number of beds, 323.

	Medicine.	Surgery.
Men	155	74
Women	60	34

	MEN.			WOMEN.			Total general for 1822.	Total general for 1821.
	Med.	Surg.	Total	Med.	Surg.	Total		
In the hospital, Jan. 1, 1822	144	56	200	49	31	80	280	301
Admitted during the year	2,120	553	2,673	620	227	847	3,520	3,500
Dismissed	1,746	490	2,236	465	215	680	2,916	2,956
Deaths	369	65	434	146	15	161	595	565
Remaining 31st Dec. 1822	149	54	203	58	28	86	289	280
Rate of mortality, one for	5.27	8.35		4.27	15.5			
Mean number of days in the hospital	25	38		34	45			

The ages which gave the greatest number of patients were from eighteen to twenty-five.

It will be observed on comparing the above table with that of the Hôtel Dieu for the same year, that the rate of mortality at La Charité considerably exceeds that at the Hôtel Dieu. It will also be noticed, that the time during which the patients remained in the hospital was much greater than at the Hôtel Dieu, showing a greater proportion of chronic disease, and this circumstance explains in part the increased proportionate mortality. There are also at La Charité a large number of patients with pulmonary disease, which is sufficient cause for the more considerable mortality in the medical wards.

The visits are made at the same hours as at the Hôtel Dieu. Two mornings in the week are appropriated to operations, most of which are performed by Roux. It will be seen that the amount of surgery for 1822 was greatest at the Hôtel Dieu. This was not the case in 1826–7, the number of operations at La Charité at that time exceeding those at any other hospital in the city.

Surgery of La Charité for the year 1822.

Sutures	33	Removal of wens	13
Abscesses of the anus	11	——— of cancers	17
Hydroceles by injection	16	Sarcocele	11
Incisions for opening abscesses, &c.	53	Cataracts by extraction	43
Luxation of humerus	11	Fistula in ano	32
——— of elbow	2	Fissure of the anus	7
——— of patella	1	Bronchotomy	2
——— of foot	3	Amputation of arm	4
Strangulated hernias	14	——— of forearm	4
Paraphymosis	3	——— of hand	1
Incisions for whitlows	27	——— of thigh	12
Fistula lachrymalis	4	——— of leg	8
Introduction of catheter	50	——— of foot	1
Lithotomy—lateral operation	14	——— of fingers	13
Removal of polypus	10	——— of great toe	1
Resection of mucous membrane of the rectum	5	——— of penis	2

It will be observed in comparing the table of surgery of the Hôtel Dieu and La Charité, that there is a want of conformity in the proportion of certain operations at the two hospitals. This is the case in regard to operations for the stone. Patients afflicted with fistula in ano are mostly sent to La Charité, fractures generally to the Hôtel Dieu, where they are treated by position; and cataracts to the Hôtel Dieu and La Charité in nearly equal proportion. The applications for admission are all made at a general office, and the patients are sent to one hospital or another, according to the nature of their diseases, or other circumstances. This arrangement is of great utility, as it gives the surgeon an opportunity of testing the value of any particular method of treatment, and the student of witnessing and studying any class of diseases, or any particular practice. Thus, the cases of fistula in ano are sent to La Charité, because Roux considers it important to *remove* freely all the indurated and fistulous portion of the disease, and the cases of cataract are divided between La Charité and the Hôtel Dieu, in order that Dupuytren and Roux may test the comparative value of their methods of operating; the former by couching, and the latter by extraction. Cancerous affections of the uterus are sent to La Pitié, it being in such cases that Lisfranc has of late successfully resorted to amputation of the *neck of the uterus.*

The surgical department of La Charité is under the care of the veteran Boyer, and his son-in-law, M. Roux. Boyer has long been known in this country as an author, and his great work on surgery is probably the most complete system in any language. The translation published in this country is a mere epitome. The work was completed by the publication of the eleventh and last volume in 1827. This venerable old man, whose name holds no second place in the rank of dis-

tinguished living surgeons, was of obscure origin, and is indebted to his own exertions for his present proud elevation. He often gives his students a brief history of his career, somewhat in the following language:—"M. Dubois and myself came to Paris together. We pursued our studies in the same room, and we had but one coat which was fit to wear in public. When M. Dubois wished to go out he took the coat and I remained at home; and when I indulged the same privilege, M. Dubois was left at our room. I first became out-dresser of one of the hospitals, then one of the resident dressers, and now, behold me! (me voila!) surgeon in chief of La Charité, and baron of the empire!" Old age has left evident traces on the mind as well as the person of Boyer, though he still attends daily to the duties of his official station, and of his private practice. He operates occasionally at the hospital, though impaired sight and unsteady hands are unfitting him for the manual performance of his duties. During my attendance at La Charité he performed very well the operations of amputation, removal of the testicle and lithotomy. His clinical lectures on surgery are attended by a small number of students.

M. Roux as an operator is justly esteemed the rival of baron Dupuytren; and considering him merely as an operator, considering merely his skill and dexterity in the use of the knife, he is unquestionably his equal, and, in the opinion of most who have seen the practice of both surgeons, his superior. But "take him for all in all" as a surgeon, he is evidently far inferior to his illustrious cotemporary. He is deplorably deficient in that most essential attribute of the accomplished and successful surgeon—sound judgment, or foresight—so well expressed by the French word *prevoyance*, and for the possession of which, I have already said, Dupuytren is particularly distinguished. Instances are frequently occurring of operations performed by Roux in cases which had been pronounced by Dupuytren beyond the resources of art. Roux's operations are unsuccessful to a melancholy extent; a result which I believe is justly attributable to inattention to those circumstances in regard to the situation of the patient which may diminish or increase the chances of success, and also to an improper practice subsequent to the operation—a fault which runs through the whole system of French surgery, which in the opinion of most American and English practitioners, adds in no inconsiderable degree to their catalogue of mortality, and of which more will be said hereafter. Roux appears particularly fond of tedious and difficult operations about the mouth and face, such as his staphyloraphia, and those done for the cure of deformities. There was an interesting case of the latter kind in the hospital during the

whole period of my attendance, eleven months, exhibiting a remarkable example of perseverance and determination on the part of the surgeon, and of fortitude on the part of the patient. This was a girl eighteen or twenty years of age, whose left cheek had been perforated by an ulceration following an attack of fever. The patient was in good health, and though the deformity was easily concealed by wearing an adhesive plaster, and though she suffered from it but trifling inconvenience, she was anxious that it should be removed, and M. Roux consented to make the attempt. I have no regular minutes of the case, but as near as I can recollect, the opening was about three-quarters of an inch in diameter. The first operation was that of paring the edges, and bringing them together with sutures and adhesive straps. This was unsuccessful. The same operation, after the expiration of some weeks, was performed on a part of the opening, and this was partially successful. After repeating several times these operations variously modified, which were always long and painful, without being able to close the aperture, M. Roux proposed attempting to fill it up by a piece of skin taken from the palm of the hand on the inner side. The girl, after due deliberation, and after many vain attempts to persuade some one of the students to substitute his hand for her own, consented, and the operation was accordingly done. The edges of about three-quarters of the opening were pared off, and the piece of skin still partially united to the hand, was neatly adapted to the opening, and well sewed in, and the hand and cheek strongly bandaged together. Strong hopes were now entertained of success, but the lady dreamed in her sleep, and started in her dream, and on removing the dressings at the end of four days, the piece from the hand was found entirely torn away from the cheek. But, nil desperandum! cried the surgeon; and the determination of the girl to have, if possible, a whole cheek on each side, made her "nothing loth" to a submission to more cutting. The idea was now formed that a part of the upper lip might be made subservient to the much wished for consummation. The lip was accordingly slit down from the nose, and then divided up to the opening in the cheek. This piece of lip, after the necessary paring of edges, was turned up and secured by ligatures in the perforation, thus successfully closing the cheek. But the left corner of the mouth, in consequence of this appropriation of the lip, was drawn out of place, so as to be situated nearly in front below the nostril, thus making the deformity greater than ever, and so placed that it could not easily be concealed. I left the girl in this situation, she having suffered a painful operation once in six weeks, or two months, for nearly a year, and then getting

ready for farther operations intended to remedy the deformity of the mouth. This case was witnessed by many American students, and is related as an illustration of one of the most striking peculiarities in the character of M. Roux.

M. Roux is professor of surgical pathology in the school of medicine. His manner as a lecturer is hurried and uninteresting. He was born in Gascony, and still preserves his provincial dialect and rapidity of utterance to such a degree as to render it extremely difficult for foreigners to understand him. He is of a nervous temperament, and exceedingly irascible. I have rarely known him go through his wards without scolding in good earnest a considerable number of his patients, and he seldom does an operation without treating his assistants in the same manner. Still he has great good humour, is very familiar with his students, and is popular and beloved as a man.

Lowell, Massachusetts, Sept. 15, 1828.

REVIEWS.

ART. XIV. *On the Nature and Treatment of Tetanus and Hydrophobia, with some Observations on a Natural Classification of Diseases in General.* By ROBERT REID, M. D. Licentiate of King and Queen's College of Physicians in Dublin, Member of the Royal Society of Edinburgh, &c. &c.

IN our last number* will be found a lengthened discussion of that portion of the above work which relates to hydrophobia, with a pledge to give some further account of its contents. As stated on the former occasion, it is the importance of the subject of which it treats, and not the ability of the treatment, that has led us to select this diminutive and imperfect tract as the object of such elaborate attention. To redeem our pledge, we now proceed to the consideration of tetanus, the only remaining part of the work to which we attach the slightest value.

Nosologists now divide this disease into idiopathic and symptomatic, or traumatic, as it proceeds from general causes or is induced by the irritation of a wound. It was also formerly separated into species, according to the posture of the body when labouring under the affection: drawn forward, it was called emprosthotonos—backward, opisthotonos—to one side, pleurothotonos, or tetanus lateralis—seated in the neck, cervinus—in the muscles of the jaw, trismus—and on a general rigidity of the muscles taking place, holotonicos, or tetanos. But these distinctions are no longer regarded, and the terms of course exploded, which at all times should have been viewed more as *jaw-breakers*, than designations of *locked-jaw*.

In treating the subject we shall confine our remarks to the traumatic form of the disease, considering it as peculiar in its character, and indeed as the only genuine tetanus. Those imitative affections arising from other agencies, cannot, with propriety, be embraced within the same view, either theoretically or practically, and should be designated by the title *tenanoid*, so exactly expressive of their nature.

Tetanus, in the sense in which it was originally used, is not appropriate to all the states of the disease, the muscles, indeed, being much more frequently affected partially than generally. But in the modern acceptation, it means any variety of tetanic rigidity, and as

* American Journal of the Medical Sciences.

thus by common consent, adopted, we shall, with this explanation, retain it.

To wounds, as the term *traumatic* implies, is real tetanus exclusively owing, though what particular character of the injury, or the texture in which it may be seated, is required for the production of the disease, does not very clearly appear. Lacerations of nerves, tendons, and ligaments are undoubtedly most apt to occasion it, and are well calculated to excite alarm under all circumstances. Yet injuries of this kind are often harmless, in such respect, while in other instances tetanus has followed lesions in other structures, and of the most trivial description. No wound, it may be affirmed, is exempt from danger, wherever situated—whether it be lacerated, or gunshot, or a slight puncture, or a clean cut, a contusion, or common ulcer, or inflicted by a surgical operation. Cases in demonstration of this remark are abundantly distributed throughout our medical records, and are familiar to practitioners of experience or reading.

The interval between the occurrence of the cause and the tetanic effect is exceedingly indefinite. Much depends on the constitution of the patient, its irritability or otherwise, and other states of system, as constipation particularly, the position in which he may be placed, a close, crowded, or an empty, ventilated apartment, the degree of temperature, and the sort of injury. These are all circumstances calculated to influence that event, as well as to heighten the general predisposition to the disease.

Tetanus is met with in all climates, though more generally in the warm and moist. It is very common in our extreme southern states, and of such rare occurrence in this city, that we have seen in twenty-four years' practice only three cases of it. Each sex, and every age and temperament are liable to its attacks. It is in the male, it is said, of irritable habits, that it oftener takes place, and particularly in the negro, which, perhaps, may be owing, in both instances, to a greater exposure to its causes, rather than to any constitutional predisposition. Climate also modifies the disease. It is milder in the temperate than torrid zone, independently of other evidence of which, Baron Larrey states that he found it far more intense, with a resemblance to hydrophobia, in Egypt, than in Germany.

The attack sometimes comes on within a few hours, according to Chalmers, and there is a case reported by Professor Robinson, of Edinburgh, in which it was excited instantly by a scratch on the thumb from a broken china plate, ending in death in fifteen minutes after this slight injury. But its accession is usually at a much remoter period, several days at least, sometimes even weeks elapse,

and very often not till the wound is nearly or entirely healed, and free from pain and uneasiness.

It is stated by Sir James M'Gregor, in his Report on the Diseases of the British Army on the Continent, that if it did not occur before the end of the third week, the danger was over, and Baron Larrey tells us, that among the troops in Egypt, the fifteenth day was the at est period of its happening.

In its mode of approach it also varies, sometimes gradual and distinctly marked by prelusive symptoms, while more commonly its onset is sudden, without any premonitions whatever. Being a matter of much moment to be acquainted with these precursory signs, we shall indicate them in detail. They are lassitude and anxiety, want of sleep, faintings, a peculiar dejection of countenance, "more in sorrow than in anger," increasing in expression of melancholy distress—with præcordial or gastric uneasiness, and frequently constipated bowels. It has been remarked by Richerand, as also a preliminary symptom, that patients during sleep are very apt perseveringly to extend their limbs—and when the case is a little further advanced, there are twitchings, nervousness, some difficulty of deglutition, and, in turning the head, with pain at the scrobiculus cordis. The wound itself, may afford some useful information, it having been noticed by Baron Larrey as alarming when it becomes dry, and by a later writer, that it is not less so where it is covered by a darkish, unhealthy-looking sanies. Danger may be apprehended whenever the wound has an ill aspect, and especially if it be pallid and without inflammation. But it more frequently happens, that such premonitions are wanting, and the disease comes on abruptly by a sense of tightness about the jaws, neck, and tongue, with lancinating pains at the ensiform cartilage, penetrating to the spine, attended by difficulty of mastication and impeded deglutition. By degrees, all these symptoms become worse, the muscles of the neck are more violently affected by spasm, the abdomen is tense from muscular contraction, the head and trunk are drawn backwards or forwards, as the extensor or flexor muscles may be more strongly affected, or the body bent as a bow, resting on the head and feet, or to one side with the jaws at the same time firmly locked, or the whole muscular system being thus involved in a universal rigidity, the patient remains as a frozen corpse, with the forehead wrinkled, the eyes distorted, the nose pucked up, the cheeks retracted towards the ears, so as altogether to present a most hideous aspect. Not the least characteristic symptom in some cases, is an exquisite morbid sensibility, by which ordinary noises, or slight movements, or a draft of air, or a glare of light, is

felt, and causes the patient to be agitated and disturbed, or thrown into convulsions. The same effect is also experienced by attempting to swallow, especially fluids, the recollection of the suffering from which creates a reluctance to renew the trials, and all food is refused, in these several respects resembling hydrophobia. That such is the uniform severity of tetanus, is not meant to be conveyed. As in other diseases, it has gradations of violence, and the case described is of the most aggravated form of it. But mild as it may be, its spasms are terrible, recurring at short intervals, and accompanied usually with excruciating pain, re-excited sometimes by no evident cause, though more generally brought on by some effort, as changing the posture in bed, or endeavouring to swallow, or to speak, &c. &c. The spasms of tetanus differ from those of most other similar affections, in never becoming entirely relaxed, and hence are of that kind denominated *tonic*, in contradistinction to *clonic* rigidity. It is true that some remission may be perceived, though not sufficiently to yield to the action of the antagonizing muscles. The pain, we have said, of the spasms is usually intense, and such is the fact. But there is a singular case recorded by Sir Gilbert Blane, in which in place of acute pain, a tingling sensation existed, rather agreeable than otherwise, ending however fatally. By the same writer two other anomalous instances are mentioned, where the spasms were confined to the side of the body in which the wound was situated.

It is said by Cullen that this disease is seldom attended by fever, in which observation most of the authorities coincide. During the intensity of the spasms the pulse is contracted, hurried, and irregular, and the respiration is equally disordered, all subsiding, however, in the remission. The heat is not usually increased, though the trunk has been sometimes found hot, while the extremities were cold. Mostly the surface is pallid and damp, and collapsed. Delirium rarely attends it, and the prima viæ are sound, excepting torpor of the bowels, which constantly exists. The secretions and excretions are generally depraved, the urinary diminished, and the alvine large and much disordered. As to the duration of the disease, it varies considerably. Chalmers tells us that it often ends in convulsions in twenty-four, thirty-six, and forty-eight hours, and very rarely exceeds the third day. By Morrison we are informed, that in the West Indies he has known death to happen in forty-eight hours, and one case which endured for twenty days, ultimately proving fatal. It is stated by M'Gregor, in the reports which we have before cited, whose experience was very enlarged, that death took place on the second, third, and fourth days, and even as late as the seventeenth and twentieth

day, though it was not commonly protracted beyond the eighth day. Cooper gives a case that occurred in a military hospital in Holland, where life was continued for five weeks. The patient usually expires in some vehement convulsion, though sometimes there is a relaxation of all the muscles eight or ten hours before the fatal event, with such other appearances as might warrant an expectation of recovery.

It is spontaneous or idiopathic tetanus, with which the traumatic form of the disease is most apt to be confounded. Even here, however, the difficulty of discrimination will not be found very considerable. Distinct from other considerations, to aid our decision, a reference to the mode of production of the case must generally prove adequate to the purpose. Traumatic tetanus is the product only of wounds, and it is easy to determine how far the case is dependent on that cause. To indicate the peculiarity of character of the other species of the disease, modified as it is by the variety of causes inducing it, would lead us into a minuteness of detail, neither pertinent to the occasion, nor sufficiently instructive to warrant the consumption of time. Caused by cold, operating on a previously heated system, which is the most common agency in its production, it is essentially of a rheumatic nature, and may be recognized as such by the retention of certain symptoms of that form of morbid action, disguised as it is by other phenomenon, not ordinarily belonging to it. Even more dissimilar to genuine tetanus, are those spasmodic affections brought on by the narcotic, and occasionally by irritating ingesta, or worms, and where any ambiguity exists, it will be easy to dissipate it by an inquiry into the circumstances under which the case took place. As to hydrophobia, to which in many of its aspects, it is sometimes closely assimilated, we formerly pointed out the most conspicuous difference, and on reaching the pathology of tetanus, the diagnostic signs will be made further to appear.

No disease is scarcely more fatal or less to be controlled than this, and our prognostications of success should always be cautiously guarded. Clarke declares, and which declaration is supported by Moseley, that in the West Indies it is utterly unmanageable, he never having seen or heard of an authenticated cure. Conceding that this may not be strictly true, it still shows the extreme intractability of the disease. The results of our practice in this country, we suspect, would be very melancholy. Nor is the experience of Europe more encouraging. Every one who has writen on the subject complains of the want of success, even in private practice, and we learn from the army surgeons, both of the Continent and of England, that the mortality was dreadful in their practice. Yet there are gradations of vio-

lence in the disease, and all cases are not equally dangerous. It is the opinion of Larrey, who had ample opportunities of determining the point, that opisthotonos, though of rarer occurrence, is invariably less curable than the other shapes of the disease, which he imputes to the pressure on the spinal marrow, and contraction of the larynx and pharynx when the head and trunk are thus thrown back. It may generally be stated that when the attack comes on gradually, and for the first three or four days the jaws are only slightly affected—when the abdomen is not preternaturally hard, or the bowels obstinately costive, the skin moderately warm, and some tranquil sleep is enjoyed, the countenance little changed, a free discharge of saliva, whether spontaneous or by mercury, hopes may be entertained of an eventual recovery. It is remarked by Hippocrates that fever, with white, thick urine, denotes a crisis, the case henceforward ceasing, and to effect which was a leading indication with him. But on the contrary, if the attack be sudden and vehement, the muscles of the neck, back, and belly are rigidly contracted, with severe darting pains from the sternum to the spine, or the abdomen tense, and the least pressure thereon producing spasms, or there is an exquisite morbid sensibility imitative of hydrophobia, or the convulsions frequently recur, and the bowels remain unrelentingly bound, or the urine suppressed, and a cold, damp surface, with a very quick, irritated pulse, and distorted or otherwise materially altered countenance, the danger is most imminent, and we should be prepared for an unfavourable issue.

It has been observed that bodies which have died of tetanus run rapidly into putrefaction, and this may be one reason why *post mortem* examinations have been so rarely practised, and our information limited as to the appearances. It is, however, affirmed that effusions are sometimes found within the cranium, denoting the pre-existence of meningeal phlogosis, though oftener, no such evidence is to be discerned. More generally is to be seen inflammation in the mucous coat of the stomach about the cardia, in the tract of the œsophagus, including the pharynx, both of which contracted and covered with viscid, reddish mucous. The same appearances have been observed in the bowels, which, however, are oftener loaded with matter widely different from natural fæces. Lately, the spinal marrow has attracted attention, and most of those who have engaged in the inquiry, represent it as pretty uniformly inflamed, in some instances intensely so, with extravasations of coagulated lymph, and still more copious serous effusions. But this can hardly be claimed as a discovery. The same phenomena were noticed by Fernelius in idiopathic tetanus, and confirmed by others. Lieutaud expressly states that in

spasms and convulsions of this kind the spinal marrow is affected, and that a watery fluid is effused between the integuments. Belfinger holds nearly the same language, and Burserius declares that the principal seat of the disease is in the brain and spinal marrow, and more certainly in the latter. It is, however, affirmed by Swan in a recent essay on the disease, that according to his dissections the ganglionic system is more than any other part concerned. Most of the ganglia, of the grand sympathetic, throughout its distributions, he uniformly found highly inflamed, and in other respects greatly changed from the healthy state, which appearances, he further says, he has since ascertained had been noticed by Aronsson of Strasburg, and by M. Andral, Fils, of France. He might have added Lobstein, who also remarked them.

In considering the pathology of tetanus, perhaps little more at present can be assumed, than that it is primarily an affection of the spinal marrow, whether of simple irritation or active phlogosis, is not satisfactorily determined, though probably the latter condition ultimately predominates. That the disease is mainly located in this part, is abundantly shown, without any appeal to its symptoms, or the evidence of dissection, by the simple fact that it may be brought on in decapitated animals, merely by the insertion of a probe in the spinal marrow.

Thus far it resembles hydrophobia, and in the subsequent play of sympathies the analogy holds to a considerable extent. It seems however to differ in this respect, (determining from symptoms in contradistinction to the statements of Swan,) that the spinal nerves retain more exclusively the irritation, those of the cerebrum and ganglionic system suffering comparatively little. Nor is this the only dissimilarity. The muscles in tetanus evidently acquire a greater degree of irritability, and the irregular spasmodic movements are not of the same character in the two cases. Muscular action, natural or morbid, is influenced by nervous influence—and it is equally admitted, that spasm depends on opposite states of the muscle, a high or reduced degree of excitement, and is alike the result of inordinate stimulation and of exhaustion. The spinal marrow, the fountain of that nervous energy which the muscles receive as their incitement to action, may be so affected by morbid impressions, as to have its capacity to elaborate this energy invigorated or weakened, and hence applied to the muscles in excess, or the reverse, and consequently the one or the other sort of spasm takes place. Comparing what is observable in the two diseases in relation to this point, we think we shall be led to the conclusion, that while in hydrophobia the nervous supply is diminished,

there is a redundancy of it in tetanus. In support of this inference the fact may be appealed to, that the spasm in the one instance is milder, followed always by relaxation, whereas in the other, it is violent in the extreme, and nearly unrelenting.

It has been intimated as a further distinction, that the cerebral and ganglionic nerves are more implicated in the hydrophobic than tetanic affections. Looking at some of the phenomena in hydrophobia, the heavy congestions which occur in the brain, the lungs, and, occasionally, in the abdominal viscera, we have additional proof of a defect of nervous energy. Experiments demonstrate, as mentioned in our preceding review, that whenever there is a want of such energy, by destroying the nerve, or in any mode intercepting the supply, the organ labouring under the disability uniformly fills with dark blood—and are not such the appearances in hydrophobia? It may be true, that occasionally, the great sympathetic and its connexions become involved in tetanus, contrary to its general tenor and character. By Mr. ABERNETHY such a view seems to be entertained, and in explanation of the occurrence, he supposes, that during the irritable state of the wound, the digestive organs particularly are deranged, which condition reacting on the injury, even after it has healed, or is apparently doing well, revives the disposition to tetanus, and the nervous system generally is involved.

It being universally conceded that little can be accomplished towards the cure of tetanus, every care should be practised to obviate the occurrence of the disease, and this consideration will first engage our attention. The wound should be examined, and all sources of irritation, as dirt, and other extraneous matters removed, and, under certain circumstances, it may be proper to dilate it, and particularly where a nerve has been partially divided. To induce healthy inflammation in the injured part is deemed of the highest importance, and with this design, a pledget of lint soaked in the spirit of turpentine, is perhaps the best application which can be made to it. This end being attained, suppuration should be promoted by an emollient poultice—and if there be much local pain and irritation, laudanum may be added to it, and a dose of it exhibited internally. Next the bowels are to be evacuated and kept in a soluble state. As a prophylactic, a mercurial course has been recommended by Clarke and other writers, particularly after a surgical operation. But it is probably ineffectual, as cases of tetanus have occurred during a salivation for another disease—and it might be even positively pernicious by increasing the irritability of the system. The diet is to be nutritive, rather more cordial than usual, and with an increased quantity

of wine for a few days. Need we say, that all the predisposing and exciting causes, formerly pointed out, should be studiously avoided.

As to the treatment of the disease itself, it is a subject replete with difficulty. Every plan has occasionally succeeded, and every plan has more frequently failed. Called to a case, this moment, we should really be embarrassed what to do, and must, therefore, present more a review of the several prevalent modes of practice, than indicate any definite course confidently to be preferred. Nor are doubt and hesitation in this respect peculiar to ourselves. No candid practitioner holds other language, and in perusing the various treatises on the disease, we shall see one uniform attempt to determine, amidst the most contradictory accounts of the remedies, which, on the whole, has been attended with the least ill success. Entertaining the conviction that the disease is purely of a symptomatic nature, excited and maintained by the irritation of the injury, it was reasonable to presume, that by doing away the cause, the effect would necessarily subside. Conformably to such a view, which has long been entertained, is in part the treatment of tetanus. Topical applications however, of a very different kind are recommended. By some it is proposed to lay open the wound, and fill it with the spirit of turpentine, or to dress it with the epispastic ointment, or to apply the potential or actual cautery to it—while others recommend sedative and soothing measures, as an emollient poultice, or a cataplasm of tobacco, or lint wet with laudanum. It is obvious that these opposite means must be suited to very different conditions of the injury, either as it is indolent or irritable, and the one or the other is to be preferred accordingly. As an extension of the same principle, amputation has been strenuously insisted on by Baron Larrey, by whom some instances are adduced of its success. But it has failed in other hands, and particularly in those of Sir Astley Cooper, who has publicly protested against it, in which denunciation there seems to be a pretty general concurrence of surgical authority. The fact is, that all these local remedies have proved very precarious, and are held of doubtful utility. Nor perhaps is it very difficult to assign a reason for it. To be of service they must be resorted to very early in the inchoate state of the case, since after it is formed, or in other words, the morbid impression pervades the system, it becomes independent of the primary irritation, and the removal of it, even if it could be effected, were nugatory.

Equal uncertainty prevails as to the most eligible general or constitutional mode of managing tetanus, every internal remedy having

proved as unavailing as the topical means described. Three plans of practice are now pursued by the profession, amidst numerous empirical suggestions occasionally adopted—and from the irreconcileable hostility of principle which dictates them, we are entitled to infer that they are all wrong, and the cures claimed under each, are as much to be ascribed to the resources of nature, as to any remedial efficacy. The first of these plans is by the narcotic substances, the best of which is opium. To doubt entirely its success, especially in mild and lingering attacks, would be unwarrantable scepticism. It too often fails, however, and seems only to have been of advantage when commenced early, and in very large doses, frequently repeated. The quantity indeed sometimes given, is so enormous as to exceed credibility, were we not aware of the great expenditure of susceptibility in most of these affections. It is to this circumstance, the loss of susceptibility to remedial impressions, that our want of success is perhaps in a great measure to be imputed. The stomach indeed seems to become exanimated, or to be deprived of most of its vital capacities. Medicines introduced into it, neither act on it, nor are acted upon. Dead matter lies inertly on dead matter. It were easy to demonstrate this proposition by diverse testimony, could we descend to such details. But a single fact may suffice, which is supplied by Mr. Abernethy, who states, that in a case under his care, where thirty drachms of opium were given, the whole was found after death, in the stomach, undissolved or otherwise changed. Combinations of opium, with musk, or camphor, or ether, are a favourite remedy with some, the utility of which is questionable. Most other antispasmodics have had a trial, including the warm bath, and with results not encouraging. The latter sometimes is temporarily tranquillizing, though never curative—is very apt by the disturbance of the patient to bring on violent spasms—and death has occurred from it. As a part of the same system, we may here include with propriety emetics, either to vomit, or in nauseating doses, and also relaxing enemata. No advantage we suspect has been derived from the former, in either mode of exhibition. The latter, however, are perhaps deserving of attention. An infusion of tobacco administered in this way has cured several cases of the disease in this country, and though it failed in the British military hospitals, it is not spoken of contemptuously. The fumes we should prefer. By an injection of tartarized antimony, we have reason to believe, we once relieved a case of traumatic tetanus.

The reverse of this course of treatment is also practised. Believing the disease to be one of debility, powerful stimulants are directed, as wine to the amount of several quarts daily, and as is alleged,

with occasional success. But hard as it is to question these statements, coming as they do from respectable sources, they are not too hastily to be received. Laying other objections aside, how could so much fluid be taken by an individual with *locked jaws*, where it is often difficult to introduce the smallest portion, and every effort of swallowing produces convulsions? Credat Judæus, &c. Medical testimony is fallacious, and not to be relied on, even where veracity cannot be impeached.

As a modification of this plan, tonics have had the confidence of some practitioners, and more particularly the Peruvian bark, the cold bath, &c. They too "have been weighed in the scale and found wanting." There was a time when cold water in every shape of application, had great repute, and not a few cases might be adduced of its efficacy: but it is now pretty much exploded. The army surgeons both of France and England, declare that it is worse than useless.

Notwithstanding the repudiation of the practice, it may not be uninteresting to notice the chief authorities by which it was sustained. As early as the time of Hippocrates it prevailed, by whom, indeed, it is declared, that affusions of cold water constitute the very best treatment, though he positively excepts traumatic tetanus, in which he deemed the practice pernicious. But without any such limitation it has been greatly extolled by many modern writers, among the most distinguished of whom are Wright and Currie. The mode which they pursued was to plunge the patient into cold water, and keep him in it till nearly exhausted, by which muscular action became relaxed. Even admitting that a few cures were thus effected, the countervailing evidence is so great, that the remedy has lost confidence, and as just stated, is no longer employed.

Nothing can more strikingly prove the unsettled state of opinion on this subject, than the recommendation of depleting and evacuating measures in this disease. Moseley says that the Spanish surgeons in the colonies bled their patients, when plethoric, in both arms and legs, and of late some very distinguished practitioners have become advocates for venesection in the early stage of it. Larrey has published several cases illustrative of its good effects, and M'Gregor has done the same. Dickson, an authority of scarcely less weight, thinks, "that in a full habit, when the wound is swelled, inflamed, and painful, bleeding and free purging, with such other means as are calculated to allay the general and local irritation, afford the fairest chance of arresting the danger." Distributed throughout the periodical journals, there is considerable evidence of similar purport. On the other hand, it has been tried in numerous instances, and with the

most decided injury. De Haen, who experimented largely on the subject, among other remedies, resorted to venesection, and in one case carried it to the amount of one hundred and thirty ounces in twenty-four hours, and killed the patient.

As to purging, it is well known that Hamilton has given the most unqualified commendation to it, in his celebrated treatise on purgatives, sustained by much concurrent testimony from other sources. It is a practice, in our opinion, deserving of much attention, and in which we are supported by Mr. Abernethy. That great practitioner declares, that he "is convinced in tetanus and all nervous affections, it is a most material point to operate on the brain through the digestive organs, and that producing secretions from the alimentary canal has a more beneficial effect in tetanus especially, than any other means we can employ." It is confessed to be decidedly useful in trismus nascentium, and, from analogy at least, we may conclude it might prove so in the other species of the disease.

What shall we say of mercury, a remedy *sui generis*, which at one period inspired universal respect, and was as universally employed? Long had its reputation been on the decline, when it came to be completely extinguished by the reports of the medical men attached to the service of the late belligerents of Europe. No trial of it could have been fairer than was made by them, as well internally as by the most copious inunctions, and without any success.

Not altogether dissimilar to mercury, in some of their properties, are the preparations of arsenic and lead, each of which has been used in this disease. We had formerly here a graduate from Virginia, who gave us in his thesis, several cases of tetanus cured by his preceptor with Fowler's solution and laudanum, and on the suggestion of John Hunter, the acetate of lead has been tried, though we doubt successfully.

Conforming to the present pathological view of tetanus, that it is mainly seated in the spine, is the practice which seems most eligible. Topical bleeding, blistering, or issues by moxa, or the common or actual cautery, throughout the vertebral column are the remedies proposed. These would appear to promise well, and some cases are reported in the writings of Europe and this country of their success. But really, though claimed as such, their is nothing new in the suggestion. We have already seen that a similar pathology is to be met with in several of the old authorities, and sixty years ago, a surgeon of the name of Carter published a case of tetanus cured by the application of a strip of epispastic plaster along the whole of the spine. It may be further learnt from Moseley, that it was a common practice

in the West Indies, more especially in the Spanish and French islands, to dry cup the spine, shoulders and breast, or deeply to scarify these parts and dress them with irritants, or at once to resort to cauterization. As the result of all our inquiries and reflections on the subject, we should now be led to adopt this revived course, aided by the liberal use of opium, taking care at the same time, to preserve the bowels in a laxative condition, and, perhaps, under certain circumstances, resorting to relaxing enemata of tobacco, or emetic substances. These failing, we would endeavour instantly to induce the most copious diaphoresis, by the Dover's powder and vapour bath, to be kept up for a length of time, which seems plausible in theory, and has actually proved serviceable, on the authority of some cases reported by Latham, an eminent physician of London. It is on the same principle that the sand-bath has been lately proposed by Stedman, of one of the West India Islands. Great, and sometimes insuperable difficulty will be opposed to the exhibition of medicines by the mouth, from the fixedness of the jaws and impeded deglutition. The œsophagus tube cannot be used, even where the mouth may be open, since experience shows that all attempts to introduce it have been foiled, by the violent spasms and convulsions it excites. The rectum, therefore, is the only medium left in such an emergency.

Nor would we, while conducting this general treatment, neglect to call into requisition as auxiliary to it those local means, particularly pressure by the tourniquet, &c. which were indicated under the head of hydrophobia.

It may be proper, at least, as a matter of some curiosity, merely to allude to an extraordinary practice among the inhabitants of the Tonga, or Friendly Islands in the south Pacific Ocean, among whom we are told traumatic tetanus prevails to a great extent. It consists in producing a considerable degree of irritation in the urethra, and a discharge of blood from that part by the introduction of a reed of proper size, for some distance into the canal, and when the case is very violent, by passing a cord along the urethra through the perineum, the two ends of which are occasionally pulled to and fro, inducing great pain, and a copious hæmorrhage, with much swelling and inflammation of the penis. By Mr. Mariner, from whom we derive the account of this strange and unpromising practice, it is stated that he witnessed two cures of confirmed tetanus from it. Every fact relating to the treatment of this disease is interesting, and without advising this precise mode, it may suggest a principle capable of improvement. It was indeed somewhat on this principle, that Dr.

Brown of Lexington, many years ago proposed exciting strangury in tetanus as a cure, and bore some evidence to its efficacy.

In closing a discussion in which so little practically useful has or can be said, we perhaps owe an apology for the length to which it has been extended. Though it may be true that we leave the subject in nearly the same obscurity that we found it, we cannot so far depreciate our labours as to presume them worthless. Humble as is the service of him who merely clears away rubbish, and removes difficulties, he is not without merit. We have endeavoured at least to prepare a site on which others may hereafter erect a glorious edifice.

N. C.

Art. XV. *On Difficult Cases of Parturition, and the use of the Spurred Rye.* By W. Michell, Member of the Royal College of Surgeons, London. Printed for Thomas and George Underwood, Fleet street, 1828, pp. 128.

Researches respecting the Natural History, Chemical Analysis, and Medical Virtues of the Spur, or Ergot of Rye, when administered as a remedy in certain states of the Uterus, with a Coloured Engraving. By Adam Neale, M. D. Physician to his Majesty's Forces, and to his late Royal Highness, the Duke of Kent, &c. &c.

There is no substance of modern introduction into the materia medica, that has so generally engrossed the attention, and divided the opinions of medical practitioners, as the secale cornutum, or the ergot of rye. From the moment that the public were made acquainted with its real, or attributed virtues by Dr. Stearnes, it has not ceased an instant to claim general investigation, and to elicit the opinions of obstetrical practitioners upon its pretensions. So general has this feeling prevailed, so interesting have its powers appeared, and so ardent has hope been to find all its imputed virtues realized, that every one who had the charge of females in particular, under their care, felt that they would not be rendering justice to their patients, did they not exhibit this substance when either difficulty or delay attended the parturient function.

The pretensions of this drug were so imposingly set forth, and so generally justified by the experience of those who had made trials of it, that its adoption in practice was as sudden, as it was universal. The timid and the daring, alike became its advocates, and with such

concurrence of belief in its efficacy, that the most sceptical yielded assent, or but feebly opposed the general impression in its favour.

But this state of things did not last long; for the ergot, like every other sublunary good, was soon abused by improper trials, and was accordingly condemned; derided from unfair experiments, as possessing no earthly power; or stigmatized from incautious exhibitions, as mischievous or deadly. Hence, the descrepant testimony at this moment, of the powers of this medicine.

In thus briefly summing up the discordant opinions of writers upon the ergot, we mean not to impugn the honesty of any sentiment expressed upon it, though we are sincerely of opinion that it does not merit the obloquy heaped upon it, as the faults imputed to it have arisen rather from its empirical application than from any feebleness of powers, or absolute noxious qualities.

From all we have learned from our experience, or can learn from that of others, we are pursuaded that the advocates of the ergot have betrayed in many instances ultra admiration of its powers, while those who disparage them, or declare them to be injurious, have allowed themselves to be led to conclusions at variance with general experience or positive evidence. The admirers, therefore, of this substance expect too much from its powers, while its detractors hope too little.

To the former class belongs Mr. Michell, the author of the work, the title of which heads this article. In noticing this work, we feel we have undertaken a most ungracious task, as we find very much more to condemn than to approve; yet the position we occupy, seems to make it obligatory upon us to give our candid and deliberate opinions upon works of this kind, so soon as the opportunity presents itself. This duty appears to us to be more than usual imperious, as the work in question has been much lauded by different reviewers on the other side of the water.

In prosecuting our task in the manner we have thought right, we entirely disclaim all hostility to the author; he is entirely unknown to us; our sentiments upon the subject in question differ widely very often from his, and to express them, we feel a privilege to which we are entitled, by every right which a publication gives to those who may venture to review it. We had much rather applaud than condemn, when the choice is put in our power; but in the present instance, we are deliberately of opinion that the work before us is in many instances inconsistent with itself, and but too certainly calculated, if the doctrines promulgated be acted upon, to do injury instead of good.

In this charge we do not confine ourselves to the mere modus ope-

randi of the ergot, or its very frequent, and, as we believe, unnecessary exhibition; we include a number of the principles or doctrines entertained by the author, as well as several very reprehensible practical manipulations. In a word, we have rarely if ever seen so many ill-digested opinions, or so many dangerous practical inculcations in the same number of pages.

We do not hesitate to ascribe to the author the greatest purity of intention, and the most ardent desire to promote the public good; but we cannot help being of opinion that, however pure his aim, he has greatly missed it, in recommending his own practice for imitation. His temerity, (for such we must consider it,) in many, has nevertheless in some instances, removed several very severe charges against the ergot, and which may be taken as so many important practical truths; these we shall have occasion to remark upon as we proceed.

In conducting the subject of his essay, the author has thought proper to treat upon a variety of subjects, some of which have no direct bearing upon the point in question—therefore, strictly speaking, it is not an essay upon the modus operandi of the ergot, or an exposition of the cases proper for its exhibition, but a melange of crude physiological notions, and practical illustrations of the *effects*, rather than of the *utility*, of this drug in cases of labour.

As this essay is divided into a number of chapters, as well as the relation of many cases, we shall proceed to consider them separately, with the exception of the two first chapters. The first of these is entitled "On Puerperal Convulsions;" we do not notice this chapter, because it would lead to too long a discussion of what we conceive to be errors in pathology and practice. The second chapter proposes to take "A General View of the Process of Labour, with a particular reference to its Expulsive Force," &c. &c. But as we do not find any thing new or interesting in this chapter, we pass it also in silence.

In page 1 of the preface he says "the reader is not to expect from the following pages a complete treatise on the difficult cases of parturition, and still less any thing like a system of midwifery. They contain merely some few practical hints on the lingering and laborious cases which will occur to every medical accoucheur in the course of his practice, and in the treatment of which he can derive little assistance from the professed treatises on the subject of midwifery in general." This is a heavy and severe charge against the experience of a Baudelocque, a Smellie, a Denman, &c. and it is one in the justice of which the author himself does not appear to believe. For he, in the very next page, says with every appearance of candour,

that "no one modern improvement in medical science has, in my opinion, conferred so great a benefit on society in general, as the superior skill, information, and talent, at present directed to the science of midwifery." If the cases of difficulty to which he alludes, be not well treated of "in professed treatises," how has "society in general" been benefited by the "skill, information, and talent," at present directed to the science of midwifery—for it is to be presumed that cases which are not "lingering and laborious," will require no extraordinary skill or talent for their management.

He very strongly declaims against mechanical means in the practice of midwifery, and says that "recourse is too frequently had to them upon trifling occasions, and sometimes even when the uterus is the part that requires assistance," p. 1. of introduction. We are decidedly of opinion that the clamour against the use of mechanical agents, especially the forceps, in the practice of midwifery, has almost exclusively arisen from the mal-adroitness of the operator, rather than from a just or well-grounded objection against the action of these instruments themselves, or the occasional but absolute necessity for their employment. We are firmly persuaded that the forceps, when properly managed, have saved the lives of thousands, and have never, when well conducted, done injury to the mother, so far as we have observed.

We therefore cannot but condemn such sweeping proscriptions of the forceps, as we are every way sure that much mischief has arisen, and much will yet follow, if the precept that is so evidently inculcated be acted upon. To the practitioner who has deliberately made up his mind on this subject, from the study of the principles which should govern the use of these instruments, and from well-directed experience and correct observation, the objections of Mr. M. will perhaps have no injurious effect; but to the young and inquiring, they will be mischievous, by rendering his duty uncertain, and his conduct vacillating, at a moment that requires all his firmness, and his most prompt decision.

Upon this point we are entitled to speak; because we have had repeated opportunities to witness the mischievous effects of that uncertainty which arises from the conflicting opinions of writers upon the best mode of terminating a given labour. The moment for acting with success to both mother and child, has been lost, never to return. A temporizing plan has been pursued, until a decisive one would no longer be availing; the ergot had failed; the head had rested many hours upon the soft and sensible parts of the mother; they become tender and inflamed, and these necessarily become augmented by the

mechanical means which must now be had recourse to; gangrene and sloughing follow. We speak from observations, upon this point.

But this is not all; the forceps are declared with much propriety to be the means by which the life of the mother and child are to be saved; and in judicious hands they deserve the high character just given. To enable them, however, to fulfil these express intentions, requires a proper estimate of their necessity; a skilful application of their powers; and a well-timed moment for their employment. Without these observances, the life of the child may be forfeited, when it was very possible to have saved it by a judicious use of the forceps. Had Mr. M. only condemned the rash and unnecessary use of these instruments, he would have performed an acceptable service, and we would most willingly have joined issue; but to reprobate the use of an important means, because it may be, or has been abused, is no less mischievous, than unfair: and were this the mode to be pursued upon all important occasions, our art would soon be left without any, or with but very few resources. Nay, the virtues of the very remedy which he has laboured so hard to exalt, might soon be questioned, or be made to sink into disrepute.

Indeed we are not certain that this time is not fast approaching; for it will only require a few more *friends*, of equal zeal with Mr. M. to hasten the downfall of the ergot, or to bury it in oblivion. His purported object is to prove that this substance produces a relaxation of the os uteri; we shall see presently, how well he has succeeded in his attempt.

Besides, Mr. M. himself confesses, that "lingering labour will frequently exhaust a woman's strength, when the presentation is right, notwithstanding all our attention." p. 18. If this be true, it can only be in instances where patience and a reliance on the powers of nature, (which were not realized,) superseded the trial of skill, in the well-directed use of the forceps. For we must insist, and this quotation bears us out, that there are cases precisely as stated above; and where even the ergot, with all its admitted powers, has failed. This is not a supposititious case; we know the fact: if this be admitted, would it not be criminal to permit the woman's strength to be exhausted from a repugnance to use measures which may in improper hands be abused?

What excuse can Mr. M. make to the public for neglecting the only means that could be employed for the preservation of the mother and child? namely, the forceps. For it is to be presumed, that so warm an advocate as Mr. M. is for the ergot, must have employed this substance and it had failed, when he declares, that a lingering labour,

even when the presentation is right, "will frequently exhaust the woman's strength, notwithstanding all our attention." Will his abhorrence to the use of the forceps plead a justification of his conduct to a husband, who has been bereaved of a beloved wife, because he had an aversion to the employment of instruments?

Or, if the woman do not perish in the act of giving birth to her child, what atonement can Mr. M. make to her for the following consequent evils. "A long confinement of the head in the pelvis is equally dangerous to the mother and to the child; by its pressure against the soft parts it stops the circulation, bruises the soft parts, and *often* brings on sloughing and gangrene." p. 17. We again ask, what reparation can be made for the ravages his negligence has created? Or how would Mr. M. prevent these evils happening, but by the forceps, applied with due skill, and in proper season? This he does not condescend to inform us of; he only declaims again, by saying, "when *dangers* of this sort occur, I would not advise the forceps, as I verily believe that more lives have been lost than saved by the use of them," p. 18. He farther adds, "because delivery may be expedited by them, they are often had recourse to without the slightest occasion;" therefore, (for this is the obvious conclusion,) because these instruments may or can be abused, or used when "there is not the slightest occasion," we must not employ them, where the woman's strength would be exhausted by the lingering nature of the labour. Can any doctrine be more absurd, or more truly dangerous.*

But it may be said that Mr. M. has provided against this conclusion by the observation which immediately follows; "from the cases I shall hereafter introduce, it will appear, that whilst we have medicines which will expel the child naturally, there can be no good reason for the use of instruments, which often occasion sloughing and death."

* Will Mr. M. contend that any attempt to excite the uterus, is more dangerous or even more fatiguing to the patient, than his method of provoking uterine effort? He says, p. 42, "*When I found the os uteri thick, rigid, and unyielding, or when I found it deep, thin, and flaccid, I passed up the hand, and introduced first one finger, then another, and so on, until I had introduced the whole hand, then opening the hand, and fully dilating the parts, I withdrew it without lacerating the membranes, and never interfered again, until I suspected that the membranes required rupturing, or the head in perinæo, which in a few hours will assuredly be the case, if no impediment exists*"!!! This practice approaches nearer to an impossibility than any thing we have ever met with—the whole hand is forced through a rigid os uteri, finger at a time; the os uteri made to dilate by opening the hand; and *the hand withdrawn without rupturing the membranes!!* to say nothing of the pain that this must create during its performance, or the consequence that must necessarily follow such violence!!!

Now it must be evident at first sight, that we have not wrested Mr. M.'s meaning, when his acknowledgment is recollected, that the woman will become exhausted by the lingering nature of the labour, (the presentation right,) "notwithstanding all our attention." In such cases what has become of his "medicines that will expel the child naturally?" If he has withheld them, he has become criminal; if they had failed, he was no longer in possession of medicines that 'would expel the child naturally;" he would therefore prefer that the woman die, rather than use a certain and safe means to relieve her.

Does not Mr M. go beyond the truth of all observation, when he declares that the forceps *often* produces sloughing and death? In cases of sloughing after the use of the forceps, was not the mischief done before they were resorted to? If it was, the forceps are not chargeable with it; if it was not, it could only have arisen from maladroitness, which should not be considered as necessarily connected with the instruments themselves. Moreover, Mr. M. as we have just shown, has declared that sloughing and gangrene, take place without the forceps having been used.

Besides, we know of no authority that supports Mr. M. in these assertions; certainly, he will not find such a condemnation in the best writers upon this branch of medicine. For neither Levret, Baudelocque, Leroux, Gardien, nor Meygrier, among the French, make any such charge against the forceps; nor, will he find himself borne out by the most respectable authors of his own country, Indeed, we know of no British writers that have even disparaged these instruments, if we except Denman and Osborne. The former, however, acknowledges their utility; and has laid down limited rules for their employment; while the latter makes the indications for their use so extreme, as almost to proscribe them: with these exceptions, we may say with much confidence, that the judicious use of the forceps, have been looked upon as one of the most important improvements in midwifery.

We fear, that Mr. M.'s aversion to the forceps, has prevented his acquiring sufficient dexterity in their application, to render them auxiliary; or, perhaps, even safe in his hands. He certainly *appears to be ignorant* of the proper cases for their employment, as laid down by the most experienced practitioners, of either his own, or other countries; or he would never select extreme cases to support his objections.

It never has been contended for, by the warmest advocates for the forceps, that they are eligible or proper, in all cases; and especially in such deformities of the pelvis, as would forbid the hope of bring-

ing the child into the world alive. On the contrary, they are expressly forbidden, where the pelvis has not full three inches, in its antero-posterior diameter.

Nor must the young practitioner be seduced into the belief, that the only merit of an accoucheur consists in the passive, (but oftentimes destructive,) watching, of the long-continued, and severe conflict, between the natural powers, and opposing difficulties. For he must be instructed to feel, and to know, that it is sometimes as hazardous to wait beyond a given period, as it would have been rash and injurious to have interfered at others. As far as our own experience has gone, we can without mental reservation declare, that we have never witnessed the smallest injury to follow the use of the forceps, when these instruments have been judiciously employed; and we have seen them several times used, even by young practitioners: though, we unreservedly confess, we have known accidents of a fearful kind take place from the hands of the ill-instructed. But, does not the same thing happen from any important operation, when ill performed?

It may be thought, by those who have not made midwifery a study, that we have dwelt unnecessarily long upon this subject; with such, we are willing to plead guilty; because, we are sure, we shall not be censured by those, who have felt how uncertain and limited the means are, in some instances, to preserve the life of both mother and child. To deprive such, then, of the only resource which art presents us with, by a wrong estimate of the powers and safety of the forceps, would be as cruel as it would be dishonest; for we must insist, and repeat, at the risk of being tedious, that safety in these cases, depends upon the forceps alone. We speak this from ample and oftentried experience; and we are sure, it will meet the concurrent testimony of almost every practitioner in this country. For, who has not seen the head linger for hours at the inferior strait, even after the ergot has been perseveringly and faithfully tried! And, where the child would have inevitably perished, but for the timely and triumphant aid of the forceps. We would ask what Mr. M. would do, when the head of the child was at the inferior strait; when the uterus was passive, or so feebly exerted as to be altogether incompetent to the end; when the ergot had been liberally employed, but had failed to renew the exertions of the uterus! Would he wait until his patient expire, or the child die, before he would use the forceps? for this is certainly his doctrine. But, this is not our practice; for we feel it a duty to abridge pain, as well as to preserve life; and we have done this, we most conscientiously believe, in more than two

hundred instances; nor did gangrene, sloughing, or even a laceration of the perinæum follow in any one instance.

In Chap. IV., Mr. M. considers à l'Osborne, the comparative merit of the Cæsarean operation, and embryulcia. We shall not enter into any detail of strictures upon this disputed point; leaving every practitioner to consult more extended examinations of this subject elsewhere, and thus enable himself to make up his mind upon this debateable point of practice. We shall, therefore, only transcribe a portion of this chapter, that the reader may be put in possession of the logic, and ethics of Mr. M. upon this point.

"I am at a loss for the least excuse for the practitioner who would sacrifice the life of the mother, that the child may be saved. To say nothing of the great danger of sacrificing both by so rash a choice; for, I conceive, the most resolute of our profession, would hesitate long, before he made up his mind to so cruel an expedient, and this delay would *generally ensure the death of the child.* But, supposing the infant could be saved; on what plea could we put the life of the mother in comparison with that of the child. If, by a contrary practice we save one woman out of five, even to the destruction of five children, I conceive the advantage is still on this side. If the increase of mankind be the consideration, *the woman saved may afterwards have five children, and these have children as early, (within a few years,) as the infant, had it been saved.*"

We see by this quotation, or at least it appears so to us, that Mr. M. does not altogether relish the taking of the child's life by the downright violence that embryotomy imposes; to spare his sensibility he would "hesitate a long time before he made up his mind to so *cruel an operation,* and this delay would generally *ensure the death of the child.*" Wonderful tenderness. He would permit the poor infant to die by inches, that he need not destroy it suddenly, by a cruel operation. Upon this point we could say much; but we must proceed.

The logic, and political calculation of Mr. M. is not less remarkable; he is comparing the merits of two deadly operations. One highly threatening to the mother, but offering a probable, nay almost certain chance to the child. The other *certain death* to the child, but offering a chance to the mother. Yet he very gravely tells us, "the woman saved may afterwards have five children, and these have" (after having their skulls opened, mark, and their brains let out by embryulcia,) "children as early (within a few years,) as the infant, had it, (by the Cæsarean operation,) been saved." p. 22.

"The time was, when the brains were out, the man would die."

The woman who has had embryulcia performed on her five times, we must presume, had it performed from an absolute necessity arising out of a defect in the pelvis; and that each time it was done, was because there was no other chance of relief, but by this operation or by the Cæsarean operation. Yet Mr. M. gravely tells us that this woman may bear five children more, and they raise a progeny! Can the performance of embryulcia *five times*, possess a charm to do away the defects of an ill formed pelvis? if it cannot, embryulcia must inevitably be performed five other times, if the woman again goes five times to the full period of utero-gestation; and if this be the case, the objects of political economy cannot be answered, by giving the preference to embryulcia, over the Cæsarean operation.

Nor can we allow the young practitioner to be imposed upon, by the specious pretext of a name of some celebrity, or by false calculations, when it will interfere with his duty, and influence his judgment, to the injury of society.

Mr. M. informs us that Dr. Osborne has declared, that "out of sixteen hundred cases, he has used instruments in three only, and in one of these he considers unnecessarily." p. 53. Now this is a strange quotation altogether; since it does not tell the result of all Dr. Osborne's practice; for it is not to be supposed, that a man so fully employed as Dr. O. is said to have been, can have witnessed but sixteen hundred cases of Midwifery; and if he has not given us the result of his whole practice, he has, of course, not given a proper average.

Besides, Dr. Osborne is no authority on the use of the forceps; not because he differs from every body else, as regards the proportion of cases that may require them, but because he makes the necessity for their employment consist in a moribund state of the patient. He requires, that, "the powers of life be exhausted; all capacity for farther exertion to be at an end; and that the mind must be as much depressed as the body; and would at length sink together under the influence of such continued but unavailing struggles, unless rescued from it by means of art." If these be Dr. O.'s rules, he may well have but few cases fit for the forceps; or rather he ought to have none, since art can interpose with but very little prospect of success, under such a burden of evils.

We consider the declaration of Dr. Davis, of London, of much higher authority than the joint opinion of our author and of Dr. Osborne together. He says, "in my own practice, as one of the physicians to the Maternity Charity of London, which is beyond comparison, the most extensive obstetric institution in Europe, I have the satisfaction

of being able to assert, that I have never incurred the misfortune of losing a mother in consequence of a forceps operation." Elem. Oper. Mid. p. 274. Here however we must stop; not because we have nothing more to say, but because our limits will not permit a farther elucidation of this important point.

In Chapter V. Mr. M. advocates an untenable ground; namely, that the symphises of the pelvis relax during labour, to favour the escape of the fœtus through this cavity. But as this opinion however unfounded or ill-supported, leads to no great practical error, we will consign the hypothesis to the tomb of all the Capulets. Remarking only, that we do not doubt, but that a relaxation of the pelvic symphises, does occasionally take place; but when it does, it must be regarded as a diseased condition of these parts.

Though we have agreed to dismiss the ostensible subject of this chapter, we cannot pass without remark, the preposterous and dangerous practice of Mr. M., in lingering cases. He says, "when administered, (spirits,) in a large quantity of water as a *diluent*, so as to take off the sickening effect of the warm water, I think it it often of the greatest advantage, causing an increase of the circulating fluids, which cannot be carried off by the kidneys, as they very seldom secrete at all, or in very small quantities during labour, the increase must then be thrown upon the uterus, and excite it to action. It was indeed, the best means we were possessed of to accelerate lingering labours, before we were acquainted with the ergot." p. 45.

The practice of midwifery must have been in a lamentable state, in Mr. M.'s neighbourhood, (for we cannot suppose he means to include a wider range,) if rum and water was the best means in their possession, "to accelerate lingering labour." The causes of lingering labour are various, agreeably to Mr. M.'s own showing, and as we shall see presently, yet, for all these varieties, but one remedy was known; namely, diluted ardent spirits. Has Mr. M. never known fever to attend a lingering labour? has he never witnessed too much blood to be the cause? has he failed to observe how frequently an engorged state of the uterus has occasioned a lingering labour, and how suddenly this has been relieved by the loss of blood? Can it be supposed then, that an increased quantity of this fluid, thrown upon the uterus will be favourable to its action, when it possesses already, as much, or, perhaps, more than it should, to enable it to perform its actions healthily?

Besides, he tells us, p. 50, "that hectic or phthisical patients are said to have long, lingering labours, *but I have never found this to be the case.* I have met with several cases in which consumption has been

delayed by utero-gestation, although the patient was within a few weeks of death, at the time she first proved to have a fœtus in utero. In these, the os uteri gave very little resistance to the child, the perinæum was thin, and the child born in half the time, and with less pain, than any former accouchement." p. 50. In these cases, (which are in strict conformity with our own observations,) Mr. M. would find it difficult to prove the presence of an increased quantity of blood in the uterus, which he thinks so essential to its action.

In Chap. VI., Mr. M. considers "the various causes of lingering labour, and its treatment." This chapter commences with the following observations. "A great variety of difficult or laborious cases, which require instrumental aid, are enumerated by authors; these I shall endeavour to review, as briefly as possible, and will show, that most of them may be overcome by skilful management, when the presentation is proper, without even the assistance of the hand."

In these promises, he entirely fails, in our opinion; at least, if indiscriminately recommending of dangerous practices may be considered as failure.

"1st. Labour-pains protracted or delayed by debility." p. 48.

This is the first assigned cause of lingering labour, of our author; for the management of which, he says, "in cases of debility, as described by authors, arising from disease, or flooding, which is always alarming to the timid and unpractised accoucheur, if the bursting of the membranes do (does) not produce expulsive pains, I would not even wait for medicines to take effect, either to stop the hæmorrhage, or increase the throes, but at once introduce the hand, turn the child, and bring it away, as the only safe treatment both to the mother and the child."

If there ever was a more vague, and dangerous direction given to the young practitioner, it has not met our eyes. It is contrary to every well-established principle in midwifery, and contrary to the opinions of the most enlightened practitioners of the present day. It directs, that, whenever the female becomes weakened by disease, or flooding, that the membranes should be immediately ruptured, with a view to stop the bleeding. Here, no mention is made of the condition of the os uteri, whether its condition be fit for this purpose or not. For it is now, an established law with the best authorities upon this subject, that rupturing of the membranes should not be had recourse to, but as a dernier resort, unless, the danger be imminent; the os uteri dilated, or easily dilatable; and, other means have proved unavailing. No provision is made against the contingency, that the os uteri may be rigid; by directing in this case all the remedies gene-

rally employed for flooding, and especially, by that almost certain one, the introduction of the tampon.

The uterus is not even to be induced to contract, by giving the ergot previously to an attempt to turn; for if the breaking of the membranes do not immediately "produce expulsive pains," (a circumstance we have never known to happen in this state of things,) he would, "at once," and we must presume, at all events, "introduce the hand, turn the child, and bring it away." He in this case, advises the introduction of the hand at all events; for no exception is made; the os uteri is to be penetrated, at whatever cost; and the uterus is to be suddenly emptied, however indisposed it may be to act, at the almost certain risk of increasing the disease, for which this hasty turning was intended to prevent. Let any experienced practitioner say, whether this is safe advice for the young practitioner. If there be any two rules more imperative than the two here directed to be violated unnecessarily, we are unacquainted with them. For, it is a fundamental principle, in obstetrical practice, that nothing can justify the entering the uterus with the hand, when the os uteri is rigid, resisting, and requiring force for this purpose. It is also agreeable to all sound experience, that the uterus is not to be suddenly emptied at any time; but especially, when it is indisposed to action, as it almost always is, when the system in general is weakened by the loss of blood.

"2dly, Epilepsy. Here I would pursue the same course, and turn." The same objections would apply to this practice.

"3dly, Irregular pains and spasms." Here purging and large doses of opium are recommended.

"4thly, Debility and faintness, not to be referred to any particular cause, will occasion protracted labour." He does not tell us how to manage this case, nor does he attempt to show that such a condition of the system may exist. This is a great omission after the high promise made in the initial paragraph of this chapter, that he would show, "that most of the causes of lingering labour might be overcome by skilful management." Now we do not believe that this state of "debility and faintness" can exist without a particular cause; and are of opinion that this condition has several, and sometimes opposite causes; and that they may require prompt and opposite treatment.

Among these causes we may reckon an over-distension of the uterus from too large a quantity of the waters; a plethoric condition of the system in general, or the uterus in particular; a too dense and unyielding condition of the membranes; an internal hæmorrhage, &c.

"5thly, Inflammatory habit in the strong and robust, causing a

determination of blood to a different part." Here he properly directs bleeding, purging, and a cooling diet.

"6thly. The practitioner may be deceived by spasms and pains in the bowels, before labour-pains come on." For the relief of this condition, he advises "glysters, castor-oil, and opiates." Here the young practitioner, after having consulted Mr. M.'s book, might ask what kind of glysters, when should castor oil be exhibited, and when opiates. All these may be highly proper in appropriate cases, but these cases are not pointed out.

"7thly. Passions of the mind, and mismanagement of the labour, will frequently delay the pain several days." For these he offers no remedies, but most unsuccessfully speculates upon the modus operandi of "passions of the mind." How to remedy the consequences of mismanagement, he does not tell us.

"8thly. Cases of rigidity of the os uteri, constriction, firmness of the ligamentous part of the pelvis, and also from *flaccidity* of the os uteri, which is worse than *rigidity.*"

To prove the latter assertion, a circumstance unheard of before, that a flaccid condition of the os uteri is worse than a rigid condition, he relates a case of rigidity that was overcome spontaneously by rest in three days. Does this prove, that the same would not happen to the os uteri when it was in a state of flaccidity? He ends this summary by the following reflections.

"Such are the cases, which, in one out of ten, are said to require instrumental aid." Where has Mr. M. found this doctrine inculcated? We know of no such assertions or calculations. There is not a case here enumerated, that would require, in any thing like the proportion set down, the aid of instruments. Indeed, one or other of these causes, is of every day occurrence, yet how few employ instruments for their relief.

He says, "I entirely agree with Dr. Osborne, that in these cases we ought to have nothing to do with mechanical art." We have already remarked upon these opinions, and shall not repeat them here. He then adds, "patience and medical treatment will overcome them all; even the worst of them require *nothing more than turning.*"

Nothing more than turning!! Mr. M. speaks of this operation as if it cost neither condition, skill, nor period for its performance; and as if it were of such easy accomplishment and so free from all evil consequences, that the merest tyro in medicine might undertake it with the most entire prospect of success; not so thought Baudelocque, and many others of good authority.

By men of large experience, turning has ever been considered an

operation both of difficulty and of danger. An operation requiring the rules which should govern it to be more exactly obeyed, than almost any other connected with midwifery. It should always be looked upon as a dernier resource, where necessity imposes its performance; for it is confessedly an operation of frequent danger to the mother; and is very often fatal to the child. But at the same time we agree that it is of vastly easier accomplishment, than a well performed operation by the forceps, when the head does not occupy the vagina.

We also agree, that little more than a persevering hardihood is required to effect *the mere turning of a child in utero;* hence, the cause of a preference being given to it; and especially by those who are not adroit in the management of the forceps. But to turn in a manner that shall be free from all danger to the mother, and with safety to the child, requires an entire knowledge of the principles which should govern the operation; and which too few possess. We have no hesitation therefore to declare, that however mischievously the forceps may have been employed, that the evils from this source are fewer than those which have arisen from attempts to turn.

Nor need this surprise us, when a writer at this day shall advance an opinion that is, and must ever be at variance, with all reason, and with all experience. Mr. M. p. 56, says, "in twenty years I shall not be surprised if the forceps be known only by name, as in cases in which ergot cannot be administered, *turning is all that is required; this may be effected as easily when the child's head is in the perinæum, as at any other period, and can be done with as much safety as in any earlier stage.*" This doctrine is so monstrous, and so contrary to common sense, that we will not insult the acquirements and good sense of our readers, by offering a single comment.

In Chapter VII. Mr. M. treats of the "great advantages of the ergot of rye—its general introduction will supersede the use of the forceps," &c. He introduces the first part of his subject, by some well merited praise of the powers of the ergot; to all of which we cheerfully subscribe; but when he declares that this substance will entirely supersede the necessity of the forceps, we cannot agree with him—and for this plain and honest practical fact; that we have been obliged to have recourse to these instruments as observed above, after the fairest trials had been made of the ergot.

That the ergot has, and will continue to diminish the frequency of instrumental deliveries, we are every way willing to admit; but this is the whole; and it is no small acknowledgment, when we do admit it; for cases will continue to occur in every man's practice of any extent, that can only be terminated by the forceps with entire safety

to the child. And we must here inculcate that the life of the child must always be considered of high importance; and when that of the mother is in no jeopardy, that it alone, merits attention. If this principle be correct, it is worthy of being acted upon; and if acted upon, the forceps must be put into occasional requisition. For so long as women are liable to resisting soft parts; to exhaustion of uterine force; to comparative or absolute narrowness of pelvis, the forceps must be employed; for we again repeat that a sufficiently ample experience has satisfactorily proved this to us.

But this is not the only extravagance that Mr. M.'s enthusiasm has led him into—for he indulges in the Eutopian notion, "that as soon as it, (the ergot,) is generally known in female practice, it will supersede the necessity for male practitioners; except in a very few instances, where *disproportion of parts is very great, or the presentation such that delivery cannot be effected without turning;* in such cases the medical man will still be called in." And if the business of midwifery be taken out of the hands of the male practitioner, where will a "medical man" be found, competent to the end proposed by Mr. M.? for it would be absurd to deny that skill is required upon such occasions if any value be set upon the lives of mother and child; nor will it be denied, that to acquire skill, practice is a sine qua non.

Besides, in this desire, for we will not admit it to be an expectation, Mr. M. is inconsistent with himself; for in his preface, he says, "no one modern improvement in medical science has, in my opinion conferred so great a benefit on society in general, as the superior skill, information and talent, at present directed to the science of midwifery. The death of a female in child-bed is now comparatively rare among practitioners in the country; and from the various methods adopted for the acceleration of the birth, (of which none can compare with ergot of rye,) *the proportion of still-born children has been very greatly diminished.* A science, so manifestly conducive to the preservation of life, and on the skilful management of which the existence of numerous individuals so peculiarly depends, may readily be admitted to be of the highest importance." p. iv.

The advantages of the male, over the female practitioner, is here set forth in good round (and as we think,) honest terms; and these facts lead him to the following conclusions. "I believe, I advance the opinion of most of my brethren, when I say, that the medical practitioner in the country, would most gladly resign the midwifery practice to the females, as in former days, but, at the same time, *I am convinced, that the present state of information on the subject, such*

resignation would be attended with a great annual sacrifice of valuable lives." p. 5.

In proof of the sincerity, and justness of his opinions on this subject, he states, that, "of twenty-one deaths that have occurred in this neighbourhood, within the last twelve years, nineteen have been women attended by females only." p. 6. Again is Mr. M. inconsistent with himself, for, in p. 69, he says, "it, (the ergot,) does not, however, appear to have been employed by medical men at that period, and in the hands of the females it was observed to produce harm." Yet, he wishes the practice of midwifery to revert into the hands of females, with all those facts before him.

Chap. X., is "an examination of the objections brought against the use of the ergot of rye, by Dr. Hall," &c.

In this chapter, Mr. M. has, we think, very successfully established the innocuous qualities of the ergot; but, has failed, in the relation of his cases, to prove that it has the smallest agency in dilating the os uteri. We may remark here, en passant, upon his injurious practice of giving ardent spirits to his patients, after delivery, by saying, it can do no possible good, and may be productive of great harm. His sixth case appears to us, to prove nothing, except improper interference; for the pains were frequent, by his own confession,—"this woman, when I arrived, had one pain only, in about three minutes and an half on the average; after the ergot began to have effect, the pains were incessant, and in three minutes and an half, she must have had thirty pains, and this caused a saving, of at least, thirty hours."

This is, truly, no less a strange, than a false calculation; in this country, we would very rarely wish the pains to be repeated oftener than once, in three or four minutes; and experience has taught us, that it is the degree of force exerted by the uterus that is the efficient cause of delivery, and not the frequency of its contraction. For, every practitioner must have observed a greater degree of advancement effected by a single pain in some instances, than by thirty, in others. In our opinion, one of the greatest objections to the ergot is, that it sometimes accelerates the contractions, without augmenting their force.

Case 7th, Was a case of twins; the first child was still-born; ergot had been administered "by way of experiment," but it failed to enable the uterus to relieve itself. After it was ascertained that there was another child, the ergot was again given, and this child was born alive, and healthy; it is, therefore, evident, that the first child did not die from the effects of the ergot.

Case 9th, Purports to illustrate the agency of the ergot, in dilating

the os uteri, though eight hours and an half were employed for this purpose. Now this effect, in ordinary cases, takes place long before this time, without the agency of this medicine.

Case 10th, Clearly demonstrates the exciting agency of the ergot, but not its dilating powers; for the uterus was open some width before it was given, and was most probably dilatable at that moment; and when in this condition, its expansion is often but the work of a few minutes, even when no ergot has been used. We say "probably dilatable;" for had it been rigid, it would most probably have been recorded by Mr. M., as it would make so much for his theory.

Case 11th, Also shows very satisfactorily, the powers of the ergot upon the uterine fibre, but not upon the mouth of the uterus.

Case 12th, Proves three things; first, bad practice; consisting in giving brandy and water; making the woman walk about the room; and waiting five hours before he relieved the uterus, when from all we can collect, it was as proper to do so half an hour after he found the ergot had failed, as it was at the moment he performed the operation.

Secondly, it proves that the ergot will fail occasionally to excite uterine action, in cases that appear most appropriate for its action.

Thirdly, it proves a very valuable fact, that pustules may infest a child in utero, where no ergot has been administered. For the first child was born before the ergot was given, and "it was covered all over with pustules about the size of a silver penny, or rather bladders, as if scalded, with a purple state of the skin, the legs nearly black." The second child had nearly the same appearance; it was strong, and lived four days.

Case 13th, shows that ergot cannot succeed, where the pelvis is much contracted, and it should never be given in such cases. It also shows that even embryulcia is attended with great difficulty and danger during the operation; and that it may be followed by serious consequences, though the woman may partially recover.

Case 14th, shows a wanton use of instrument.

Case 16th, proves that the ergot, when given in cases of rigidity, may occasion, as we all believe in this country that it will do, a great deal of unnecessary and unavailing pain. The child "was not delivered for more than three hours after the exhibition of the ergot; and it had "brought on such constant pains, that for more than two hours there was little or no intermission; it was indeed so great as to bring down the strength and exhaust even more than bleeding could have done." This case would have been treated by liberal bleeding in this country.

Case 17th, shows that in a preternatural presentation, when every

other circumstance is promising, the ergot may be given. This was a breech presentation, and would be ranked by Baudelocque with the natural labours; we would of course not give ergot in cases where the child was to be turned, though this practice is warmly recommended by Mr. M.

The other cases given by our author, do not appear to require remark. In conclusion, we must say, that in so many pages, we have never known so many contradictory opinions; so many dangerous practical precepts; and such unreasonable and inveterate dislike to the forceps. And that Mr. M. has not in one single instance proved what he so confidently purported to prove; namely, that the ergot was an efficient means to dilate the os uteri when rigid. And that he has not added one tittle to our knowledge of this substance, if we except the suggestion at p. 126, that milk, as a vehicle for the ergot, may render its operation more mild.

Of the second work at the head of our last remarks, we shall have little to say; it being confessedly a translation and abridgment of Dr. VILLENEUVE's work upon the subject of the ergot, and contains but little that is absolutely new.

In investigating his subject, the author takes occasion to remark, "that amongst all the different accidents caused by the spurred rye, there is no mention made in a positive and formal way, of any instance of abortion or premature birth of any infant, dead or alive," p. 16. This is certainly contrary to the common opinion entertained of this substance in this country. A number of experiments we know were instituted with a view to determine this question; and our impression is, that it was ascertained that the ergot had upon some of the inferior animals, the power of producing abortion.

We can offer nothing *positive* ourselves upon this point; yet a case of abortion which fell under our notice led us to the belief that it was produced by the ergot. A female was taken in violent pain, attended by hæmorrhage, in the house of her sister. Her husband had been absent a long time, and she became pregnant by an illicit connexion. Wishing to conceal her guilt, she applied to a physician, who gave her some powders which he said would effect abortion. After she had taken several portions, she found herself in the situation just mentioned. As we were in attendance at her sister's, we were sent for, and we found this patient in very violent and almost constant pain, with a considerable flooding, which soon after terminated by the expulsion of twins at about the fifth month. During a temporary absence of her sister, she communicated her situation to us, and said there was a powder left, similar to those she had taken. We examin-

ed it; it proved to be about a drachm of powdered ergot. We admit that this is not a positive instance of the power of this drug to produce abortion; it may have been mere coincidence.

Our author states upon the authority of BURGHARDT, that "convulsive ergotisme," does not put a stop to the menstrual flux, p. 18. He traces the use of the ergot in labour, much earlier than we thought it had been known. He states that R. I. CAMARERIUS says that the women in certain parts of Germany, as early as 1688, used this substance to accelerate parturition, p. 20.

The author prefers artificial delivery, to the use of the ergot, when the lower extremities are presenting, and the parts sufficiently dilated, p. 29. He also appears to be of opinion, that "in this state of things, where blood-letting and the other means of depletion are indicated, the ergot, so far from proving useful, might be very prejudicial, by *increasing* the rigidity of the os uteri and muscular fibres, more especially if its use should be persevered in, and the subsequent doses augmented on finding the first ineffectual," p. 31.

The following observations merit some attention. "It will be prudent not to give the ergot to females, who, in their former lyings-in, have been attacked with metritis or peritonitis, for fear of any return or relapse of these attacks; though, if we may trust to M. BILLARD's report, he has seen this remedy given without the least inconvenience or bad consequences to women in labour, even when peritonitis was a prevalent complaint among females in child-bed." p. 36. The late Dr. HOLCOMBE was of opinion that the ergot prevented puerperal fever.

He says that DESGRANGES "gave the black external part only, in doses of four or six grains, without any of the inner substance, and that these small doses proved equal in effect to half a drachm of the entire grains," p. 42.

He states that the ergot has been used with more or less advantage in the following diseases:—1st. As favouring the expulsion of the placenta; 2dly, as accelerating in cases of abortion, the expulsion of the whole, or the remnant of the ovum; 3dly, as restraining uterine hæmorrhages; 4thly, as producing the expulsion of clots from the womb; and 5thly, as being the means of moderating the lochial discharge," p. 79.

This little work is concluded by a valuable table from which it appears, says our author—

"That out of seven hundred and twenty cases wherein the spurred rye has been administered, within our knowledge, during parturition, there have been—

"In the first place, Six hundred cases of complete success; that is, where the

fœtus has been entirely expelled living or dead, at the full term or otherwise; either twin cases or single; circumstances which we have not been able to specify in our table.

"Secondly, Five successful cases of the delivery of the placenta or secundines.

"Thirdly, Five successful in cases attended with uterine flooding after delivery.

"Fourthly, Sixteen of moderately successful, which are made up of certain cases where the ergot has only excited for a certain time the expulsive pains; the deliverance being only accomplished naturally several hours after its employment: and secondly, of cases where, after having advanced the labour to that point where the application of instruments became admissible, it was at length accomplished by those means.

"Fifthly, Eighty-two instances of complete failure, or cases wherein the ergot produced no evident effect; that is to say, induced no return of the uterine contractions, whatever might have been the doses in which it was given.

"Sixthly, twelve unfavourable or fatal results, either in respect to the mother or the child; attributed by the several authors to its immediate action, or to some secondary effect of the ergot; and of the futility of which we have already given our opinion.

"So that upon the whole it results, that out of seven hundred and twenty instances wherein the spurred rye has been employed, there have been six hundred and ten completely successful, not comprising those of moderate success, which we omitted; so that the chances of success are to the chances of failure in the proportion at least of seven and a half to one. Now then, as a similar result is but rarely furnished by any other of the therapeutic agents employed in cases of parturition, we may therefore conclude, that no other remedy can be compared with it, either as to its utility or efficacy in bringing on safe delivery.

"Lastly, as to the proportions between the number of times that the spurred rye has been employed, and the fatal cases which are *attributed* to its use, (results which would give only one unlucky case in sixty,) this calculation is reduced absolutely to almost zero, considering all that has been already advanced in its favour.

W. P. D.

RETROSPECTIVE REVIEW.

ART. XVI. *An Essay on Fevers. To which is now added a Dissertation on the Malignant Ulcerous Sore Throat.* The fourth edition. By JOHN HUXHAM, M. D. Fellow of the Royal College of Physicians at Edinburgh, and of the Royal Society at London. London, 1764.

(Continued from page 176.)

HAVING had the most ample opportunity of witnessing every variety of continued fever, whether simple or combined with the various local affections which are mentioned by Huxham, besides several others of much greater obstinacy and malignancy than are usually seen in the temperate climate of England, we are enabled to verify the extreme accuracy of his descriptions; and we can hardly point out, indeed we know not where to find a more accurate and discriminating observer. There is one reason that we had nearly overlooked, which, notwithstanding his great accuracy and discrimination, often operates for a time, to prevent such writers as Huxham from being much read, and this is the absence of such epidemic constitutions as they describe. Those who have never seen his nervous, or his putrid fevers, or some of his atonic varieties of pneumonia and other phlegmasiæ, can hardly realize that such diseases have ever existed; and if they read his works, as their own experience has been principally confined to the synocha, or the synochus of CULLEN, they are apt to pass over his account of atonic diseases so slightly, that his descriptions of them, as well as his practice, leave only an indistinct impression. But the physician who is familiar with low, typhoid fevers, peruses him with a very different relish; he may in his turn, however, pay but little attention to those chapters, which treat of inflammatory diseases of a high entonic character. We might perhaps go further, and in those parts of our country, where, for a number of years past, the lowest atonic fevers have generally reigned, find some very respectable practitioners, who have great doubts of the existence of such highly inflammatory diseases as are described by Cullen, and every other systematic writer, and will scarcely give credit to the copious depletion which such cases actually require. To them, the dysentery of ZIMMERMANN, which yielded so readily to tamarinds and cream of tartar, is equally incredible, it being so contrary to their personal experience and observation. It is very much to be apprehended, that such physicians, on first meeting with the depressed pulse, which is so accurately noticed by Huxham, and which he so forcibly and justly states, is relieved only by the lancet, would be likely, on the first view of such cases, to err essentially in the diagnostics and practice. Our author recognises all these various states, in different

epidemic constitutions, and in different individual constitutions, and varies his treatment accordingly. He mentions cases that sink from a single bleeding, or a single cathartic; and he states others, of such high inflammatory action, that he asserts he would bleed freely in them, though a pestilence prevailed.

As an additional reason for reverting to Huxham, and to the principles and practice of his day, we would very cheerfully and gratefully state, that we are personally more indebted to his writings for our knowledge of the nature of malignant diseases, than to any other single source. When pneumonia typhodes was making such ravages about the year 1812, like most of our brethren, we were taken by surprise, and confounded by the obstinacy and malignancy of its character. We were without chart or compass, there being little or nothing in the books with which we were most familiar, to guide us, or afford us much assistance. On recurring to his writings, we found similar epidemic constitutions described with the minutest accuracy, and the general treatment very ably and lucidly delineated.

To attempt to review a work whose character is so completely established that it ought to be familiar with every physician, and is indeed to be found in almost every library, seemed to require some preliminary remarks, to vindicate such a novel undertaking, and awaken the attention of our readers. We are sensible that we have protracted them to rather an unusual length. We shall bring them to a close, by again observing, that we have no disposition to revive the exploded theories of Huxham or of any other author. It is with the diseases that he describes, and the practice which he employs, that we are alone concerned; and these are all that we consider, as at present, worthy of the particular attention of the medical profession.

Though Huxham adopts no formal system of nosology, it is very apparent that he had an accurate arrangement constantly in his mind, and at every step it is easy to trace the outline of his plan. In common with all approved authors, he acknowledges the two great divisions of fevers, the *intermittent* and the *continued*. His subdivision of intermittents has nothing peculiar.

Continued fevers he distinguishes into three kinds, the *inflammatory*, the *nervous*, and the *putrid*. We shall touch as little as possible upon his theoretical notions, yet for the more perfect understanding of his writings, it is necessary to give a sketch of his theory, which he principally derived from the school of Boerhaave, it being that by which most of the writers of his day accounted for the phenomena of diseases, and it is so interwoven in his descriptions of fevers, as to be separated from them with difficulty.

He supposes fever of the *inflammatory* kind to consist, first, in increased "velocity and friction of the blood," from violent exertion or exercise; secondly, in an "increased quantity of humours, and an increased effort of nature to throw them off, and remove obstructions," arising from suppressed perspiration; and thirdly, in an in-

creased "quantity of humours, and also of the motion of the blood," from wine and other stimulants. He further supposes, in addition to these three general states, another may supervene, the blood being violently agitated and rarified, "some of the red globules are forced into the serous arteries," producing an inflammatory obstruction, and forming the combination called by other writers phlegmasiæ or phlogotica. If this inflammation seizes the brain, it produces phrenitis, if the lungs, peripneumony, if the pleura, pleurisy, &c. Notwithstanding these superadded local affections, still he considers the state of the system in general, to be under the influence and control of one of his three kinds of fever, the inflammatory, the nervous, or the putrid, and makes out his indications accordingly. The strength and tension of the fibres, the velocity, quantity and quality of the blood, such as its lentor, viscidity, or acrimony, together with obstructions in the minute vessels, and the red globules of blood being forced into those which should naturally form serum, constitute the outline of his theory of inflammatory, or entonic, acute diseases. Though he adopts much of the humoral pathology, he still lays considerable stress upon the state of the solids.

His knowledge of vitality, and its laws in health and sickness, and of its apparent increase or decrease in different parts of the system, or in the system at large, as was the case with the physicians of his day, was very limited and imperfect. This is the principal reason, why our predecessors adopted such strange theories, in order to account for the phenomena of disease. They seemed to be scarcely sensible that the living body is governed by any other laws, than by those mechanical, chemical, and other philosophical principles, which regulate gross matter; or at farthest, than the laws of mere organization; overlooking or forgetting, that in animals, and especially in the most perfect of them, man, vitality is superadded, which has its own laws, in order to regulate and control the most minute functions of the living being.

However imperfect his theory may be, his descriptions of the most prominent symptoms of fevers are uncommonly accurate, and bear the marks of a vigilant eye and of a discriminating mind. In *inflammatory* fever, or what is now called synocha, or cauma, he observes, that "the pulse is rapid, full, tense; the breathing hot, short, and laborious; the thirst great; the tongue dry and foul; the pain of the head, back, loins, and limbs, exceedingly acute." He also notices particularly "an oppressed pulse," in which inflammatory or entonic symptoms are very much concealed or disguised; and he gives some very proper rules for detecting this state of the system, and for distinguishing it from somewhat similar appearances, in diseases of quite an opposite character, where a mistake might be fatal.

Nervous fevers, he supposes, belongs to a "weaker and more lax state of the fibres," and to "thinner and poorer blood;" and that they have their seat "chiefly in the *ultima vascula*, or in the se-

rous and lymphatic arteries, and perhaps in the very origin of the nerves. They are always attended with too great a flaccidity of the nerves and fibres, and the obstructions lie more remote from the great road of the circulating blood." These two forms of fever, the inflammatory and the nervous, he imagines, have in a great measure opposite causes, and consequently very different symptoms and effects. Unwholesome diet, peculiar seasons, depressing passions, &c. are considered as the causes of nervous fever. In this fever, "the pulse is quick, weak, and unequal, sometimes fluttering, sometimes for a few minutes slow, nay, intermitting; and then, with a sudden flush of the face, immediately very quick, and perhaps soon after surprisingly calm and equal; and thus alternately. The heats and chills are as uncertain and unequal; sometimes sudden colour and glow in the cheeks, while the tip of the nose and ears is cold, and the forehead at the same time in a cold dewy sweat. Nay, it is very common that a high colour and heat appear in the face, when the extremities are quite cold." It is proper for us to add, that in the lowest and most malignant forms of nervous fever, as well as in some few mild cases, increased heat and increased frequency of the pulse, are not necessary attendants in any stage of the complaints. This fact we have repeatedly witnessed, though it seems to have escaped the observation of Huxham, and of most other writers.

Putrid fevers, he considers, arise either from some acrimony of the blood, or from contagion. "In general, these fevers attack with much more violence than the slow nervous; the rigors, if any, are greater, the heats much sharper and permanent, yet at first sudden, transient, and remittent; the pulse more tense or hard, but commonly quick and small, though sometimes slow and seemingly regular for a time, and then fluttering and unequal. The head-ache, giddiness, nausea, and vomiting, are much more considerable even from the beginning. The eyes always appear very full, heavy, yellowish, and very often a little inflamed. The countenance seems bloated, and more dead-coloured than usual. Prostration of spirits, weakness and faintness, are often surprisingly great and sudden, though no inordinate evacuation happens." Speaking of the putrid sore throat, he says, "the word fever, as promiscuously used in the practice of physic, is not a little vague and undetermined. There are some diseases that pass under that general name, which are best cured by raising the fever." The malignant sore throat, he considers as one of this description.

As respects contagion, Huxham, in common with most authors of his day, employed the term in a much wider sense, than that in which it is now used. Upon an accurate investigation of his acceptation of the word, it is evident that in many cases in his writings it means little or nothing more than what has been considered by several of his successors as miasm in a very concentrated and active state.

From this concise sketch of the outline of Huxham's division and

description of fevers, it is obvious, that he considers all acute febrile diseases, as belonging to one of the three kinds, the inflammatory, the nervous, and the putrid. With him, these are not merely names of three different stages, or states, or conditions, of the same fever, but three different fevers, having for their origin different causes, and requiring a difference in their treatment, not only in degree, but in kind. At the same time, he nowhere seems to suppose that fevers are as distinct in their species, as plants and animals are in natural history; but he allows that they are usually modified by circumstances, and occasionally mixed, so as to require a considerable modification in the degree, and variations in the kind of practice. He says, "each particular disease, in every individual patient, is to be considered by the attending physician, not according to the nomenclature, but according to the nature, cause, and symptoms of the disease, in that particular person." Indeed, after SYDENHAM, he lays greater stress than most writers, upon the epidemic constitution of different years, and different seasons and localities, showing their great and commanding influence over most cases of fever. These points are more amply discussed in his work upon Air and Epidemic Diseases, than in his Essay on Fevers. These two works are so intimately connected, and throw so much light on each other, that they ought to be both read, in order to form the most perfect idea of the opinions and practice of the author. There is the same connexion between them, that there is between Cullen's First Lines and his Materia Medica. Either is incomplete without the explanation and assistance of the other.

Without attempting to discuss the question, whether in strict philosophical language there is more than one species of fever, it is sufficient for us to express the opinion, that there are three prominent, distinct varieties of it, which are usually distinguishable by very palpable symptoms; and that these varieties have an essential influence upon the general treatment, when it is conducted in the most successful manner. This threefold division, which is also discoverable in intermittents, though often less apparent than in continued fevers, appears to be founded in nature, or in those laws of nature by which the system is governed, when it is labouring under febrile diseases. This, Huxham could not fail to notice, as it was very strikingly apparent in the fevers which prevailed during the various epidemic constitutions of his day.

Here it seems necessary to remark, that the fevers of the time of Huxham, during the fore part and the middle of the last century, were much more severe in Great Britain, than they were during the latter part of it, especially in the north, in the days of Cullen. This circumstance makes Huxham much the most valuable, and an almost indipensable author for a physician to consult, when he is called to practice in a malignant and devastating epidemic. Cullen, though he recognised, in his typhus mitior and typhus gravior, the nervous fever

and the putrid fever, yet by his treating more particularly of the practice of all the varieties of fever under one head, produced some confusion on the subject, which tends to bewilder the mind of the student. It appears further, that in Cullen's time, the different kinds of fever, belonging to a milder epidemic constitution, were not quite so distinct, but were more commonly blended together, and most of them were less severe than in the days of Huxham; Cullen's fevers being generally of the description which he called synochus, having strong reaction, in which they resembled Huxham's inflammatory fever, but ending, when not early checked, in nervous fever, or putrid fever. Cullen was the most systematic writer, and perhaps the most ingenious theorist, and he generally gave us a very faithful history of the diseases and the practice which he had himself seen; but it is very evident, especially to those who have ever witnessed a malignant disease, that his private practice and his personal experience were much less extensive and diversified than Huxham's, and that he had rarely, if ever, witnessed a severe and devastating epidemic.

Upon one point, both Cullen and Huxham appear to have had loose and indeterminate ideas. Every rapid and severe fever, which is liable to become suddenly fatal, they suppose, as a matter of course, to be a putrid fever; that before death, there is a strong tendency to putrefaction, and that after death a speedy decomposition takes place. Later and more accurate observation has proved that nervous fevers are often as severe, rapid, and fatal as the putrid, that petechiæ, ecchymoses, vibices, carbuncles, extreme depression and anxiety about the præcordia, great exhaustion, and other malignant symptoms, are equally common to both in the more urgent cases, and that some of the nervous, as the common jail fever, are more rapid and destructive than many varieties of putrid fever. The malignancy and fatality of a disease do not in anywise depend upon what are called nervous or putrid symptoms, but upon *the imbecility of the vital powers, and the insusceptibility of any salutary impression from ordinary medicinal agents.* Broussais very aptly considers malignant diseases as miasmatic poisonings, which are out of the reach of common remedies.

After having extensively treated of the various kinds of what are called simple fevers, he applies the same principles and practice, only they are modified by the attention necessary to the local affections, to the small-pox, and to the several descriptions of peripneumonies, according as they are accompanied by one or other of the different kinds of fever. A short essay on the health of seamen follows; and the volume concludes with an able dissertation on the malignant ulcerous sore throat.

The work, taken collectively, is of the practical kind, and is probably the most authentic and accurate record of the diseases and the practice in Great Britain, during the middle of the last century. It is encumbered by few speculations in the closet, except the ordinary

theories of its day, and carries with it internal evidence that it was sketched by an able pencil, while the object was immediately in view.

We come now to the most important part of Huxham's writings, and what concerns all of the profession to understand—his treatment of the three kinds of fever. In his early life it appears that the alexipharmic practice had still its adherents; it however receives his pointed reprobation in every entonic disease; and in atonic fevers he is very cautious of employing a heating regimen. In all actively inflammatory complaints, his treatment varies very little from the most improved method of the present day. In his *inflammatory* fever, bleeding is his first indication. "In general the quantity of blood to be taken away is to be determined by the strength of the patient and his pulse; by the intensity of his fever, heat, and the vehemence of his symptoms, as to pain, difficulty of breathing," &c. "It is safer to take away too little than too much at a time, as the operation may be so soon and so easily repeated, and as often as may be indicated. If the pain, heat, difficulty of breathing, &c. abate not after bleeding, it shows the necessity of drawing more blood." He states the usual method of detecting a depressed pulse, and is a very great advocate for cooling, thin, diluting drinks, of the acescent, or, (what he calls,) the saponaceous kind, combined with sugar, syrup, jellies, or rob of currants, raspberries, cherries, or juice of lemons and oranges. He frequently gives these tepid, in order to promote perspiration; though he dislikes profuse sweating, particularly when it is forced by a heating regimen. The bowels he keeps soluble by emollient and laxative enemata, and by mild purgatives, such as manna, cream of tartar, Glauber's salts, rhubarb, tamarinds, &c. All drastic cathartics, and all aloetic pills and tinctures, he decidedly condemns. It is needless to pursue his treatment further, as it does not vary essentially from the one in common use; and it is very questionable whether any essential improvements have been made upon his practice in this kind of fever. If physicians are agreed upon any one point, it is the antiphlogistic regimen in entonic fevers. He says, "in very deed, little more seems necessary in the cure of ardent inflammatory fevers, than proper and well-timed evacuations, and plentiful, cooling dilution, with a few nitrous medicines, and the acid, saponaceous juices of vegetables." If in applying his principles to the entonic phlegmasiæ, he had known the value of calomel, tartar emetic, and nitre, in combination, his practice in those cases would admit of but little improvement. He appears to have been scarcely acquainted with the powers of calomel or antimonials, to change diseased action in the early stage of febrile diseases. Though the materia medica and pharmacy of his day were incomplete, he has nevertheless great merit in availing himself of all the valuable articles, with the powers of which he was acquainted, and for some important discoveries of his own.

It is scarcely necessary to notice his chapter on *intermittents*,

though it contains judicious remarks upon the various forms which they sometimes assume. In some cases he found it necessary to bleed, purge, or vomit, before he could venture on the Peruvian bark; in other cases, attended with great debility, it was expedient to employ serpentaria, contrayerva, myrrh, camphor, &c. with cinchona, and occasionally he prescribed chalybeates when the disease inclined to be protracted. He remarks that "improper bleeding and purging often protract it greatly, and make it both anomalous and dangerous." When the countenance is yellow, the abdomen tense, attended with constipation, he employs mercurials and other deobstruents, with rhubarb, aloetics, soluble tartar, &c.

Passing by his chapters on the solids and the fluids, and the putrid state of the blood, which, though they are principally theoretical, yet contain many facts that are worthy of attention, we come to the one in which he states the difference between slow, nervous fever and putrid fever. He supposes the morbific effluvia, which cause putrid fever somewhat to resemble in their effects upon the blood the poison of a viper; but that in nervous fever the cause acts like the virus of a rabid animal, principally upon the lymphatic and nervous systems. Our limits do not admit of transcribing his description of nervous fever, which, however, is probably the best history of the disease to be found in the language, and it merits the study of every practitioner.

As respects the treatment of *nervous* fever, he observes, "I think it is very evident that very great evacuations are improper, especially bleeding, particularly in persons of originally weak and lax constitutions, who are by far most subject to it. I have known a common purge, injudiciously given at the beginning of this fever, immediately followed by surprising languors, syncope, and a large train of other ill symptoms. However, it may be necessary sometimes, even at the beginning, to cleanse the primæ viæ, by a gentle puke, a little rhubarb, manna, &c. If you give any thing drastic, be assured your patient will rue for it, and you will repent it." "A mild vomit may be given with much less ruffle to nature than a common purge, and is indeed useful, nay, necessary, where nausea, load and sickness at stomach, are very urgent, which frequently happens at the attack of this fever. Clysters of milk, sugar, and salt, may be injected with advantage, every second or third day, if nature wants to be promoted to stool." "The temperate cordial, diaphoretic medicines are certainly the most proper in these fevers, and a well-regulated, supporting, and diluting diet is necessary." He has a high opinion of "well-timed blisters." Strong opiates he considers as pernicious, and endeavours to produce sleep by contrayerva, castor, small quantities of theriaca andromachi, and elixir paregoric. "Where confusion and dejection of spirits are considerable," he adds galbanum or assafœtida, with camphor, and applies blisters to the occiput, neck, &c. "During all this, a free use of thin wine whey, or some pleasant

ptisan, or gruel, with a little soft wine must be indulged." Chicken broth, jellies of hartshorn, sago, panada, with a little wine and orange juice added to them, were his favourite diet. "The sick are never so easy as while they are in a gentle sweat; but profuse sweats should never be encouraged, much less attempted by very strong, heating medicines, volatile salts, spirits, &c." He cautions against bleeding with intent to relieve "great anxiety, restlessness, delirium, difficulty of breathing, and a vast load of oppression on the præcordia." "These symptoms denote the oppression on the præcordia, [gastric sinking,] to be from nervous orgasm, not from peripneumonic obstruction or inflammation." To relieve these and other urgent symptoms, he employs contrayerva, and other exciting articles, neutral mixture, made of volatile alkali, compound spirit of lavender, volatile aromatic spirit, &c. with thin wine, cider, or mustard whey, and blisters are applied to the arms, legs, and thighs. When these symptoms are extremely urgent, he gives musk in doses of ten grains, with a very happy effect. In colliquative sweats he recommends frequently a little generous red wine; and towards the close of the disease, where the sweats are abundant, small doses of his tincture of the bark are employed; at the same time he occasionally gives a light dose of rhubarb, and neutral mixture, which he supposes make the bark sit more easily. When diarrhœa is very profuse, he restrains it by opiates, but cautions against checking it suddenly by strong astringents. His remarks upon aphthæ, eruptions, deafness, tremors, subsultus, and other casual symptoms, need not be transcribed, as they accord with those of most authors.

We have been the more particular in stating the outline of Huxham's practice in nervous fever, not only on account of its having been in its most distinct and its severest forms, a very common disease in the eastern and northern sections of our country, for these last twenty years, but because it is now rare in England, or from some other consideration, it is not often mentioned distinctly, or recognised by many of the most popular writers, they seeming to have little or no knowledge of any kind of fever, except the synochus of Cullen. We cannot forbear remarking that though, as a whole, Huxham's treatment is probably better than that of any other writer, yet there are some particulars in which his practice has been materially improved. In some epidemics of nervous fever, in which the disease inclines to be obstinate and protracted, but is not of the lowest kind, a moderate, early use of calomel, has been found very successful, frequently changing and removing the diseased action entirely; at other times, so modifying and mitigating it, as to allow of a much earlier employment of tonics than upon Huxham's plan. Though he knew the powers of opium, and the way of keeping up its effects uniformly, by moderate, repeated doses; yet except in small-pox, he seems not to have used it with much effect in fevers. Sydenham was much less timid in prescribing it, and found it peculiarly useful in coma and other atonic affections of the brain. Cullen restored this

practice of Sydenham, employing opium freely and regularly, at short and stated intervals, in fevers attended with subsultus, singultus, spasms, &c. With the exception of these two modifications of treatment, which however, requires much caution in their adaptation to circumstances, Huxham's general practice in nervous fever, seems scarcely to admit of any improvement, as respects the principles; though the present state of the materia medica and pharmacy, furnishes us with much ampler means, by which we can more dexterously accomplish the same end.

In the eastern and northern parts of the United States the nervous form of fevers has been very common of late years; and it has been found in almost every imaginable degree of severity, from cases which are so mild as not to confine the patient to his bed, to the most malignant and rapid disease, which has been known to destroy life within six hours of the attack. Indeed, that section of our country has never been visited with any fever, so rapid in its progress, and so fatal in its effects, as in cases of a nervous character, unless we except a few instances in which yellow fever has prevailed in the seaports. However, putrid fevers are very common in the southern and western sections of the union, and are the most rapid and fatal diseases of those regions. In Huxham's day, the putrid fevers of England were generally more severe and dangerous than the nervous; and in Cullen's time, the latter were comparatively light, so that he called them typhus mitior, the milder typhus, while to the former he gave the name typhus gravior, the severer typhus. It would perhaps have been better had he made two varieties of each kind of fever, calling them milder and severer nervous, and milder and severer putrid, or employing some other equally definite terms. Yet, the variety described by Huxham, as putrid malignant fever, is unquestionably a much severer complaint, under the constitution in which he witnessed it, than his slow nervous fever; and a considerable variation is to be found in his treatment. The United States are frequently visited by epidemics and endemics of a much severer character, than any that are noticed by the English writers of the last half century, as belonging to their country. Even the epidemics of Great Britain and Ireland, of 1817, 1818, and 1819, were very mild in comparison with the malignant fevers, which almost every year visit some parts of this country. The ataxic and adynamic fevers of the continental writers, and the diseases mentioned by the elder English authors, have a much greater resemblance to the severer epidemics of America.

In *putrid* fevers, as rather a general rule, Huxham prescribes bleeding in the beginning. He, however, qualifies the recommendation of this practice with so many scruples, cautions, and limitations, that the exceptions appear to be as numerous, as the general rule is extensive. He is very careful in repeating the operation, or in taking too much blood. He says, "the pulse, in these cases, sinks oftentimes surprisingly after the second bleeding, nay sometimes after the

first." "In malignant pleuro-peripneumonies and peripneumonies, I have often seen, and been very sorrow for, untoward mistakes on this matter—and therefore, though the first bleeding may be very proper, the subsequent may not be so, nay pernicious." He mentions a putrid peripneumony, which "never bore a second bleeding with advantage, seldom indeed the first," as well as some other cases, in which, though it produced temporary relief, yet was ultimately injurious. He is also very cautious of blisters, particularly in the beginning of the disease; though he was very partial to them in nervous fever; but he employs them occasionally to obviate particular symptoms. He is equally averse to active emetics and cathartics, considering them, as well as bleeding, to be very liable to sink the patient. He, however, generally evacuates the stomach by ipecacuanha, or oxymel of squills, with infusion of chamomile; but in case of excess of vomiting, he strives instantly to check it by mild opiates combined with neutral mixture. He well knew the good effects of full doses of mild emetics, when expectoration is suppressed, and in other symptoms of pneumonia, and frequently preserved the life of his patients by their timely administration. The bowels are also moved by laxative enemata, or by the very mildest cathartics, or rather eccoprotics. Laxative enemata are usually employed every second or third day; and about the seventh or ninth day he commonly repeats his eccoprotic. He is very careful not to excite a diarrhœa; though when it is critical, or attended with an alleviation of the symptoms, he endeavours to control it, and keep it within due bounds, rather than to suppress it suddenly. Diarrhœa at the beginning of the disease, in common with other accurate observers, he considers as very prejudicial. He remarks, that he never saw one of these fevers come to a complete crisis without sweat. This he endeavours to promote, not by heating and forcing remedies, but by subacid diluents, and gentle cordial diaphoretics. Vegetable and mineral acids are freely employed as antiseptics, and subastringent alexipharmics are used, where there is much debility He cherishes an uncommon aversion to volatile alkali, which, it appears, was frequently administered to great excess by some of his cotemporaries. He employs camphor very freely, as a diaphoretic, antispasmodic, and even soporific, and usually administers it mixed with hot vinegar. "To preserve the crassis of the blood, and prevent further putrescence of the humours," besides acids, subastringent alexipharmics, camphor, &c. he occasionally prescribes alum and nutmeg. But his favourite remedy is that preparation of the Peruvian bark, which from him has since been named Huxham's tincture. Of this preparation he gives, according to the circumstances and the urgency of the case, a drachm to half an ounce, every fourth, sixth, or eighth hour, and it would seem in some extreme cases much more frequently, with ten, fifteen, or twenty drops of elixir vitriol. For supporting the strength he has a high opinion of the powers of generous red wine, and he also em-

ploys Rhenish and French white wines, as well as cider; and he generally acidulates the food and drink with the juice of oranges or lemons.

The principal peculiarities of his treatment of putrid fever, consist in the free doses with which he employs cinchona, and the alcohol of his tincture, as well as camphor, the mineral acids, and other astringents and antiseptics. This substantially accords with our personal experience; since cinchona and the mineral acids are but slightly indicated, and comparatively of but little importance in nervous fever, unless under a very peculiar and dexterous management; whereas, they are the sheet-anchor in putrid fever, after the system is prepared for them. Camphor also retains its high standing. Vegetable acids are borne much better in putrid fever than in nervous fever; in the latter, with few exceptions, they are injurious, disordering the stomach, and rendering it incapable of retaining other remedies.

For the purpose of illustrating his principles, and applying them to diseases attended with prominent local affections, he subjoins dissertations upon the small-pox, upon the various descriptions of pneumonia, upon the health of seamen, and lastly, upon the malignant ulcerous sore throat.* In all these diseases, the *general* treatment is upon the plan which he has delineated in the essay on fevers, according as inflammatory, or nervous, or putrid symptoms predominate; and, at the same time, he is careful to notice the particular remedies, as well as the modifications of treatment, which are adapted to mitigate or remove the local affections. There is scarcely a variety of pneumonia which he does not accurately describe, either in this work or in that upon Air and Epidemic Diseases; and wherever pneumonia typhodes prevails, a complaint which frequently has made terrible ravages in this country, and a disease upon which most foreign writers afford but little assistance, the physician can scarcely do so well as to consult his chapter upon peripneumonia notha, as well as his other writings upon acute pulmonary affections, in order to ascertain the true principles of treatment. The same may be said of the malignant sore throat, and upon his able dissertation upon that disease.

We would remark, however, according to what we have already more than once suggested, that in pneumonia, cynanche, and the other phlegmasiæ, as well as in the more simple fevers, the addition of several important remedies which have been introduced, and the new powers of some old ones, which have been discovered since his time, have enabled us to practise with much greater ease, and in many instances to fulfil our indications with much more precision, than was possible for Huxham or his cotemporaries, upon the same general principles.

Our limits do not admit of our analyzing the dissertations which

* His observations upon colic are not in our copy, though we formerly read them with much interest, as we also did his treatise on Air and Epidemic Diseases.

follow the essay on fevers. Nor is it our wish to make the reader any further acquainted with the principles and practice of our author, than what is just sufficient to excite curiosity, and to call the attention to a standard work which is too frequently neglected, and suffered to mould on the shelf. Huxham is eminently a practical writer, of a very extensive observation, and uncommonly accurate discrimination. He was, besides, a very honest man, and his facts are always to be depended on, carrying with them the most convincing internal evidence that they had passed immediately under his own eye. His greatest value consists in his uncommonly accurate history, and his very judicious treatment, of *low typhoid diseases*. It is scarcely possible for a physician to understand these complaints perfectly, or to treat them judiciously, unless he first makes himself complete master of Huxham.

It is worthy of remark that there is very little controversy in Huxham, and very little in his writings, (except his theory,) that admits of being controverted. Where doubt arises, as to his practical views, generally it is only necessary to study him till he is perfectly understood, and the mind of every practitioner who has attentively witnessed the same varieties of disease, must necessarily coincide with him in his general views. Nothing can be more evident than this, that he who is inclined to controvert Huxham's general principles and practice, either does not understand our author, or has never witnessed with attention and discrimination similar diseases. Nothing is more common, than incorrect ideas concerning principles and practice, in epidemic constitutions which do not come under personal observation. Upon a slight investigation, it will soon be discovered, that the diseases which are described in this work, admit of very little dispute as to their nature and the principles of treatment. By this assertion, as we have so often repeated, we do not wish to revive or defend his theory, nor even do we attach much weight to the names which he gives to the different kinds of fever. We must have names, and Huxham's, though partially derived from an exploded theory, are perhaps as good as any, and more convenient, from their having been adopted into the vernacular language.

What we have said of Huxham's practice not being to be disputed, we have said deliberately, though we are well aware that the assertion will be liable to startle some, and be doubted by all who are not familiar with his diseases and his writings. It must be recollected, that he does not pretend at all to treat of those varieties of fever which of late years have caused so much controversy, or, at the very farthest, he only glances at them in the slightest manner. If we are not very greatly mistaken, the varieties of febrile diseases, which are the great sources of contention, and the practice in which is not yet entirely settled, are comprised within a very narrow nosological compass, and consist of little more than two, or at the very farthest three sets of cases—those which come under Cullen's term *synochus*, or what a writer of our country calls the *sub-putrid*

type and the subacute and chronic inflammations. The practice in these complaints, we agree, is very various; but as they are non-malignant diseases, being intermediate between highly entonic fevers on the one hand, and low typhoid cases on the other, they are usually not very fatal under any rational kind of treatment, and consequently often admit of a great variety of practice with eventual success. Whenever diseases of this intermediate character are the prevailing epidemic constitution, there most probably will always exist sufficient reasons for hesitation, scepticism, and controversy. We can only infer what would have been Huxham's practice in such cases, from the analogy which they bear to the different kinds of fever which he has described. Perhaps we may also add, that he seems to have had but a slight acquaintance with those kinds of fever called *bilious*, that are nearly allied to remittents, and often require free evacuations, in order to remove bile and other matters from the stomach and bowels, before any other regular course of medicine can be safely and advantageously adopted. These form an important class of fevers in warm climates. Many of them readily come under Cullen's denomination, synochus, and like others of that variety, admit of a considerable latitude of treatment.

The great discoveries and improvements which have been made in materia medica, chemistry, and pharmacy, since the time of our author, furnish us with much more ample means than he ever possessed, of carrying into execution his general plan. Had he known the effects of cold affusion and ablutions he would undoubtedly have availed himself of them, in some varieties of his putrid fever. His knowledge of calomel, nitre, and antimonials, in entonic inflammations, though he sometimes used antimonial wine, and also nitre, pretty freely, was very limited; nor was he well acquainted with the deobstruent and alterative effects of mercurials, or of the powers of calomel and opium in atonic and in subacute inflammatory affections, or of opium alone in mitigating and controlling many typhoid symptoms. He and the older physicians often gave musk instead of opium.

We are fully sensible of the great importance of the discoveries and improvements which have been made, within the last half century, in the branches auxilliary to medicine, and we duly appreciate their advantage, not only to our profession, but to science in general. Nevertheless, we cannot avoid, as we before suggested, expressing our suspicion, that in the multitude of studies which are now crowded upon the student, many of the best works upon clinical practice, together with most of the valuable medical writings anterior to the time of Cullen, are too frequently overlooked and forgotten. We agree, however, that they are far from being the most proper works to put early into the hands of our pupils. They are, in reality, the last books which belong to a regular course of medical instruction, and are much more intelligible after the reader has seen a suitable share of practice at the bedside of the patient.

None of the faculty who have seen much practice, can fail of being

instructed and improved by the perusal of such writers as Boerhaave, Mead, Langrish, Fothergill, Pringle, Whytt, Lind, Chalmers, Munro, and especially Huxham, of the last century, and Sydenham of the preceding; and yet most of these authors are so far gone to oblivion, particularly in this country, as scarcely to be recollected, except by name. Even Macbride, Kirkland, Gregory, Symes, Percival, Ferriar, Chisholm, Lettsome, Jackson, and many others of the cotemporaries and immediate successors of Cullen, Brown, Darwin, and the two Hunters, most of whom have lived to our day, and some of them probably still survive, are now but little known or regarded. The medical records of the last century are no where to be found but in the works of these writers, who flourished at a time when the practice of physic was highly cultivated and improved.

At first we proposed to divest Huxham of his theory and antiquated technicalities, and, after the manner which the French and others have sometimes adopted, with the celebrated writers of the fifteenth and sixteenth centuries, present our readers with his history of diseases in a more modern and inviting dress. This, we soon discovered, would be an Herculean task, not likely to be executed to the approbation of others, nor even to our own satisfaction. Besides, it is of no small importance, that scientific physicians should be acquainted with the theoretical, as well as with the practical writings of their predecessors. With these views it will be found, that the opinions and principles of authors are generally stated far more impartially and accurately in their own language, than in that of the most successful commentator. Those, therefore, who wish to become familiar with Huxham, and this is the duty of every physician, must go to the fountain, and study his doctrines in his own works.

We had intended, if we could find the materials, to give a sketch of the life of Huxham, and a list of his various publications; but the limits assigned to this article, necessarily forbid the attempt. He was unquestionably the ablest practitioner and medical author of his day, and many would say, of his century; and he was equally distinguished for his acquirements in natural philosophy and general science, occasionally making valuable communications to the Royal Society, of which he was one of the brightest ornaments. If we recollect right, he died at Portsmouth, in the year 1767, at an advanced age, after having practised in that town with uncommon success and the highest reputation about half a century. His writings are a lasting monument of his professional acquirements and talents, and a permanent evidence of the integrity and independence of his character.

In selecting Huxham, the most eminent medical author, and the ablest practitioner of the eighteenth century, previous to the time of Cullen, as the subject of the present article, it is our wish to turn the attention of American practitioners to the writings of the elder

English physicians, whose works are certainly more applicable to the diseases of this country, than the speculations of the later European writers. We have purposely avoided making an analysis or abridgment that in any way might supersede the reading of the author in his own works. We have not even pretended to glance at many important topics which he very ably and satisfactorily discusses. Not only our own time and space, but the patience of our readers also, have their limits. The learned and the investigating are probably better acquainted with our author than we are ourselves; and they may be disgusted with the imperfect manner in which we have treated one of the most distinguished writers of our profession. The superficial and the indolent may be disappointed in not finding sufficient analyses, details, and extracts, to dispense with reading the work themselves. And those who are attached to nothing that has not the fascination of novelty, will hardly take pains to peruse, with much attention, any strictures upon what, they consider, as an antiquated work, and the mere record of absolute principles and practice. But, provided we only excite an interesting curiosity in the investigating and discriminating portion of our younger brethren, we have performed the duty which we assigned ourselves with sufficient success. If we can only succeed in producing this effect we shall rest satisfied.

BIBLIOGRAPHICAL NOTICES.

1. *Journal der Chirurgie und Augenheilkunde.* Herausgegeben von C. F. von Graefe, M. D. &c. und Ph. von Walther, M. D. &c. 11ter. band, 4 Stücken: 12ter. band, 8tück 1. Berlin, 1828.

The Journal of Surgery and Ophthalmology, conducted by Græfe and Walther, has long maintained a distinguished character, and largely contributed to the diffusion of medical knowledge. It is published quarterly, in numbers of from 160 to 170 pages each, is devoted to original communications, reviews, and bibliographical notices, and is particularly remarkable for the value of the original essays which it contains. As few of our readers have access to the original, we believe it will prove an acceptable service to present an analytic notice of the numbers recently received, and to make occasional extracts from the most interesting articles.

The first paper on pseudomorphosis, or morbid changes of structure from excessive or defective nutrition, is by Professor Ritgen.* Its great length, being extended to upwards of two hundred pages, will prevent us from stating more than its general character at this time. The writer has drawn up a digested systematic view of the actual state of knowledge upon the above-mentioned subject, and his task is accomplished in a masterly manner. His divisions are made with scientific precision, and his inferences from facts, deduced according to the best rules of philosophizing. He gives minutely detailed accounts of the specific appearances, and conditions indicating and accompanying morbid changes of structure in all parts of the body, in a strongly distinctive and clearly expressed style, which is especially advantageous to the reader.

The second article is an account of the state of surgery among the Siberian and Asiatic nomadic tribes of Russia,† and contains a considerable number of curious and interesting particulars. The following extracts will show that the writer has strictly adhered to truth, in saying that "highly elevated as is the condition of surgery in Europe, it is still entirely in its infancy among the nomadic tribes of the empire, as well as the Russians in the remote regions of this gigantic realm, upon which the sun scarcely ever sets."‡

"*Blood-letting.*—The operation of blood-letting holds a most distinguished place in surgical practice, and to say nothing of its fabulous discovery, was performed 1180 years anterior to the Christian Era by Podalirius, on the Carian princess *Syrna*, who rewarded him with her hand for his successful cure. The

* Ueber Afterbildungen, Von Herrn Regierungsrath und Professor Dr. Ritgen zu Giessen.

† Ueber den Zustand der Wundarzneikunst bei den Sibirischen und Asiatischen nomaden Voelkern, Russlands, Von Herrn Dr. Heinrich Martius, &c.

‡ "When it is noonday at St. Petersburg, it is thirty-nine minutes, forty-six seconds past ten o'clock at night at Tchukoskoi Nos, which distance makes a difference of longitude of eleven hours, seventeen minutes, three seconds. Awatscha, or the Harbour of St. Peter and St. Paul, is also about two thousand German miles, (equal to ten thousand English,) from St. Petersburg. The swift Russian post is more than two months in going the route."

northern disciples of Chiron perform the operation on man and beast with the same instruments. As in the smaller villages, where there is neither smith nor other artizan, the Russian peasant of the distant regions we treat of, buys at the basar the materials for his wagon, wheels, and other implements of husbandry, and makes his own doors, windows, locks, &c. of wood, using little or no iron; the blacksmith of the larger parishes is the surgeon, dentist, oculist, and instrument maker, all in one. From his store of iron weapons, the medicaster selects such as he deems appropriate for each particular case. The operations of these rustic practitioners is chiefly confined to bleeding, cupping, cauterizing, and sweating, and in these practices closely resemble their European professional brethren. If the first bleeding does not afford relief, it is repeated, in some cases as often as ten or more times, just as some of our bleeders do, until the patient is well or dead.

"Some of these Asclepiades are in possession of an old blunt lancet, scalpel, bistoury, or dissecting knife, which all powerful chance has thrown into their hands. That these instruments are in an entirely singular condition, blunted, and misshapen from long years of service, one may readily conceive. Frequently, however, a strong, double-edged, steel needle, and sometimes a triangular pointed knife are used.

"Among the Kalmucks, the surgeons use a sort of fleam, called *chandr*. The operation is also performed with a blade fastened to a handle. This is placed over a vein, made to project by a tight ligature, and struck with a small iron hammer. When the operation does not succeed, which is not uncommon, it is repeated until the vessel is fairly opened, and the blood flows."*

Among the Asiatic tribes we also find an entirely original instrument for blood-letting; it consists of a sort of small cross-bow, the bow being of ivory, which the surgeon tightens or relaxes, according to the force required. Instead of an arrow, a lancet-shaped instrument is placed upon it, and upon pulling the trigger, is shot into the vessel.

"The most simple and shortest method is used by the Kamtschatkadales. They select for the operation either side of the ankle-joint. The patient places the naked foot on the lap of an assistant; the operator then, with a pair of small wooden tongs, or two slender pieces of wood, takes hold of the skin over the spot where the vessel is visible, so as to form a fold, (somewhat as is done in the operation for hernia,) and then bores into the vessel with a pointed polished little knife, or for want of this, with a punch, awl, or packing-needle, or some other sharp cutting instrument of iron or copper, or sometimes with the sharp corner of a flint or piece of agate, until a sufficient quantity of blood is obtained.

"*Leeches.*—The medicinal use of leeches is not unknown either to the Russians, Tartars, Armenians, or other similar tribes. These little vampyres are

* A much more dangerous operation than this is performed by sailors occasionally. A thick glass bottle is broken with a hammer or marling-spike, and the keenest edged small conical fragment is selected, which is fastened to one end of a small piece of stick. The operation is otherwise exactly like the above, only the blow to cause the section of the vessel is given with a small stick. It is said to be not more painful than bleeding with an ordinary spring lancet, but from the brittleness of the glass edge, must be a dangerous instrument. The commander of a brig in which the writer came from the West Indies last spring, informed him that his mate had bled three of the crew in this manner, on the voyage out, with great advantage.

employed by such persons as cannot bear the sight of blood, or as have been inspired with a very reasonable dread of blood-letting by the barbarous processes of their rustic surgeons."

The method adopted by these people to collect the leeches is quite original; the leech-catcher strips and plunges into the brook or pond where leeches are abundant, and remains for a certain time, during which they attach themselves in great numbers to his skin. On coming out of the water, a small quantity of table salt is applied to each leech, which causes it immediately to let go, and the whole are kept in a vessel of water for future use. The mode in which leeches are preserved during the winter appears to us to be exceedingly worthy of imitation, as we frequently hear complaints of the difficulty of keeping them during the cold season, which if the statement relative to these Russian tribes be correct, this method would entirely obviate. In the month of October, a pit is dug in marl or clay in the open air, and the sides and bottom made quite tight and smooth; this is filled with fresh river water, the leeches are placed therein, and the whole allowed to freeze solidly. Whenever the leeches are wanted for use, a piece of ice containing them is chopped out of the pit, and is allowed to thaw gradually in a cool place. Leeches preserved in this manner through the winter, appear to be much better, and to bite with greater greediness than such as have been kept in a room.

Scarification and acupuncturation are among the most common remedies of the Asiatic tribes inhabiting the Russian steppers, as well as among the neighbouring Siberians. The surgeons of these tribes go round their districts regularly twice a year, in the spring and harvest, to perform these operations. In colics and other affections of the bowels they make hundreds of punctures into the abdomen, with silver or copper needles, with a view of allowing the offending gases to escape. In phlegmon and other circumscribed swellings, they puncture until a considerable quantity of blood is discharged. In other boils and swellings, powdered sublimate, arsenic, or alum are applied after the matter is discharged, or the surface is dressed with chewed Circassian tobacco. Scarifications about the uvula and fances, or under the sides of the tongue, are freely resorted to in cases of quinsey, dyspnœa, and other inflammatory affections. In high degrees of inflammation of the eyes, the lids are scarified with a small knife. To diseases of the eyes, the inhabitants of the Great Steppes, or desert plains, are especially liable, from the intense light reflected from the surface, as well as the fine dust blown about by the winds. As a protection against these evils, some of them wear a sort of shade made of a strip of green or black gause, or a sort of net-work made of asbie's hair.

Inoculation for the small-pox is perfectly well known to these tribes, and most probably the knowledge of its advantages is derived by them from their neighbours, the Chinese. Every ten, twenty, or thirty years the small-pox rages among them with most destructive violence, sweeping off all the unprotected.

"The mode in which the Mongol practitioners inoculate for the small-pox is very simple. They steal or purchase some dry scabs which have fallen off spontaneously, and make a small wound in the skin, or a part of the hand or foot, or some other part of the body, and secure the small-pox scab by a fillet, over the fresh wound. This is retained until the virus has acted, other pustules are formed, or an access of fever comes on, and is then removed.

"In Grusia and Georgia, the inoculator makes a superficial crucial incision between the thumb and forefinger, about half an inch long. With the point of a knife, he then mixes, in a little box, the small-pox matter with blood from the wound, which he wipes up with a small wisp of cotton, and then repeatedly applies the infected knife to the wound. The cotton is then placed over the wound, which it irritates continually, being retained by a slight bandage."

Cupping is performed variously among different tribes. Some exhaust the cup, which is large and made of copper, over a hot fire; others make use of horns having a small hole at the superior extremity, through which the operator exhausts the air by suction, and secures this opening, when sufficient exhaustion is produced, by holding a finger over it, or by applying some sort of plug. Cupping is performed in precisely the same manner by many of the negroes in this country, except that they use the ends of conical gourds for cups. The actual cautery is used extensively among some of these tribes, as is the application of moxa. In cases of inflammation and irritation from spider or scorpion bites, the wound is scarified, cauterized with a hot iron, and washed with oil or butter milk in which a spider has been crushed. Should this treatment be inefficient, the patient is placed on his back, and made to drink as much sweet milk as he can get down. He is then stowed in a chest or basket, which is suspended by two ropes to a strong hook, and swung by assistants for four or five hours, or the basket is turned circularly until the ropes are closely twisted, and then allowed to unwind rapidly; both these modes produce faintness and nausea followed by vomiting and sweating, which completes the cure.

The third paper is an account of the extirpation of a parotid gland by Dr. Cordes of Hirschberg. The gland was in a schirrous state, enlarged and studded over with callous protuberances of the size of a pea. It was successfully dissected out with the loss of from two to three ounces of blood, and the bleeding was so unimportant that it was not necessary to apply a ligature. The whole gland was removed, and weighed one ounce, nine grains, being of a callous hardness throughout. When the last incision was made, the patient started up from the seat and exclaimed loudly; saying afterwards that he then felt as if an electric shock had struck through that part of his head. His face on the side operated upon was paralysed to a considerable degree, and remained so after he was restored to health. Dr. Cordes makes some remarks on this paralysis, and on the starting of his patient at the conclusion of his operation, yet never once alludes to the immediate cause of it, the division of the trunk of the portio dura of the seventh pair; and to judge from his paper, he is perfectly unacquainted with the admirable researches of Charles Bell relative to this nerve.

The same practitioner gives an account of a case of abdominal dropsy, resulting from protracted organic disease, in which the patient, a female forty years old, was tapped, between the 24th of March of one year, and the 20th of September of the following, *fifty-nine times*, and *five hundred and sixty-nine quarts* of water were drawn off.

We next find an account of ulcerations of the intestinal canal in nervous fevers, extracted from the official report of Dr. Wasserfuhr, a staff military surgeon. In nine cases out of ten, patients dead of this disease were found to have ulcerations in the jejunum as far down as the cœcum. The reporter states that

the disease was not properly a nervous fever, as the nervous symptoms only occurred towards the conclusion, and what appears to us still more remarkable is his statement that there was no evidence of enteritic disease or gastric fever during the illness.* We can readily admit that the patients may not have shown obvious indications of acute gastritis or enteritis, but it is next to impossible, if not entirely so, that such morbid actions should be going on in the intestinal mucous membrane, without affording evidence of its existence by the derangements of function produced. The so called "nervous symptoms" must have been preceded by others, equally the product of this very inflammatory affection which strongly resembles the dothinenteritis of recent French writers. On dissection the blood-vessels of the intestines were found to be in a congested state, and pustules and ulcerations occupied the jejunum, especially in the vicinity of the cœcum. These varied from the size of a pea to that of a shilling; they never perforated the bowel, but were situated in the mucous membrane; their edges were rounded, and examined against the light, numerous red vessels were seen running towards the ulceration, gradually thickening the part. The pustules were most numerous in the neighbourhood of the colon, and consisted of spongy, thickened, insulated portions of mucous membrane, which in their most advanced stage formed the ulcers.

The ensuing paper is a very interesting account of a case in which a large portion of the calf of the leg was torn off, and reunion was afterwards perfectly obtained. It occurred in the practice of Dr. Gröschner of Spremberg. A labourer was engaged with a companion in carrying timbers for a building. While he was engaged in moving a beam, carrying one end of it, having both hands behind him, and sustaining the load about as high as his loins, another piece of timber fell across that they were carrying, and struck the end violently from his grasp. The sharp corner of the beam struck him about a hand's breadth below the bend of the knee, and tore down the integument and the gastrocnemius internus muscle, nearly to the tendo-achillis. The breadth of the flap above was upwards of three inches, below it was held to the limb by scarcely a finger's breadth of integument alone. The persons who conveyed the man to his house had re-applied the flap of flesh, but to check the bleeding had washed the limb with brandy, and wrapped it in cloths wet with the same. Dr. Gröschner removed these and applied adhesive straps. The patient did well for a few days, but soon fell very low, and at length had regular hectic and night sweats. Finding little prospect of adhesion, Dr. G. made use of sutures and a wash to stimulate the integument to a higher degree of action, administering to the patient at the same time Peruvian bark in considerable quantity, and a nutritious diet. To his great satisfaction adhesive inflammation took place, and the whole mass became firmly united. If the violence of the shock to the limb be recollected, and the fact that the mass of the gastrocnemius detached was to derive its circulation, exclusively, through little more than half an inch of integument at the inferior part of a lower extremity, we may regard this cure as a triumph of considerable magnitude. The patient was able to resume his business on the twenty-ninth day after the accident, notwithstanding all the fluctuations of health he had undergone in that time.

* "Symptome einer Unterleibesentzündung zeigten sich nicht, obwohl eine Krankheit des Unterleibes, eine Febris gastrica nicht zu verkennen war."

Dr. F. A. Von Ammon, surgeon to the Dresden Institution for the Blind, next makes some observations upon congenital central cataract, which are of considerable practical interest. We have not room to give more than the following extracts.

"The central cataract, as a congenital morbid condition of the human eye, consists of a white, sharply, circumscribed, central cloudiness of the anterior capsule of the lens, which once formed, does not increase nor diminish, and is not to be confounded with the occasional opacity of the middle of the lens or its capsule. In the latter the limits of the commencing cataract are never precisely marked, while on the other hand the transparency of the capsule in congenital central cataract begins immediately along side of the white central spot. I have twice had an opportunity of dissecting the eyes of a fœtus having the central cataract; each time I found it to be a white central spot on the anterior surface of the capsule of the lens: but neither with the naked eye, nor with the aid of the microscope, could any elevation be discovered; the central cataract appeared to me like leucoma of the cornea; difference of density was the only perceptible difference between the morbid spot in the centre and the clear part of the capsule. Both eyes were from children born about fourteen days before their time; one of them lived for some hours after birth, the other was still-born. In neither was there any trace of the membrana pupillaris; the crystalline lens was transparent opposite to it, but of a reddish colour, which commonly occurs at this time."

Dr. Von Ammon considers this congenital cataract as very inexplicable, and attempts to account for its occurrence by supposing that a partial adhesion may take place between the surface of the pupillary membrane and the anterior face of the capsule, which remains when the membrane in the latter months of utero-gestation is gradually removed. Still he regards this as a mere hypothesis, since in all the investigations in which he has most carefully examined the membrana pupillaris, he never has found one in which the centre was not already perforated. We are obliged to pass over many interesting observations connected with this subject, and content ourselves with stating Dr. Von Ammon's reasons for objecting to any operation upon this congenital cataract. This is of more importance, as it is in direct opposition to the advice of Dupuytren, who has recommended the same treatment in this disease as when the whole crystalline capsule is opaque. The reasons given by the German surgeon appear to us perfectly satisfactory, among which are the following. The congenital central cataract does not entirely prevent vision, but partially obstructs it; the patient is not blind, but short-sighted. In time he becomes accustomed to a more acute examination of objects, and for near ones gains a tolerably good sight, so that at length the central cloudiness is not regarded. As no one can answer for the success of an operation, under such circumstances it should not be done. In case the surgeon determines, notwithstanding the contraindications, to perform the operation, the question still remains, whether the eye, long accustomed to the peculiar rolling on its axis which accompanies this affection, will be brought to relinquish this habit? If the answer be in the negative, then not only will nothing be gained, but with the partially obscured anterior portion of the capsule, the sound lens will be removed or thrown out of its natural position, &c.

The succeeding article is upon the subject of chronic *Uveitis*, by Dr. Sime-

ons of Hippenhelm, and describes with great minuteness the symptoms and mode of treatment. The disease occurs most commonly in females who have ceased to menstruate, or have been previously much subject to rheumatic, gouty, or syphilitic affections, though it is by no means confined to the sex. The treatment necessarily consists of topical or general bleeding, according to circumstances, and the use of antiphlogistic regimen throughout. Dr. S. is disposed to consider belladonna as a medicament of inestimable value in diseases of the eye, and in connexion therewith he has some observations upon the *polarity* existing between the iris and retina, the brain and ganglionic system, &c. bordering too closely on the sublime to be very intelligible, though we believe he means nothing more than to give a better sounding name to that which ordinary mortals call *sympathy*.

Dr. Simeons also relates an instance of luxation of the vertebræ, which is of peculiar interest; the patient fell from a tree top, about forty feet to the ground, and was taken up insensible. When he first saw him a large swelling extended from the eighth dorsal vertebra to the loins, and concealed the relations of the bones. The patient had recovered his senses, and complained of a weighty pain along the spine; he lay in a very exhausted condition, and frequently fainted. Neither urine nor fæces had been discharged since his fall, and from the place of the swelling downwards all sensibility and power of motion were lost. The accident occurred on the 16th March, 1827. On the 4th of June, when Dr. Simeons supposed this unfortunate patient to have been long numbered among the dead, he was requested by the magistrate of the village to attend to him, as the surgeon under whose care he had been had ceased to prescribe. He found this object of compassion wasted, pale, and enfeebled to an extreme degree. Severe pains in the loins, belly, and upper extremities deprived him of rest and sleep. From the crest of the ilium downwards there was not the slightest sensibility to any sort of irritation, nor the least power of motion. The urine and fæces were passed unconsciously; the urine constantly dropping, but the fæces were frequently retained for eight or ten days: the appetite was almost entirely lost. On the left glutæus, (the patient had constantly reclined on his back slightly turned to the left side,) there was a rounded cavity eight inches in diameter, and three in depth, which, from the putrefaction of the muscles and tendons, caused an insupportable stench. A smaller and more superficial destructive ulcer was situated over the left trochanter. As the swelling over the spine was now diminished, the vertebræ were in a condition to be examined, and the following observations were made. The eleventh dorsal vertebra was thrown backwards about half an inch, the twelfth about a quarter of an inch, without any lateral displacement. Between the spinous process of the last dorsal and first lumbar vertebra there was a space of an inch and a half, and the first lumbar vertebra was displaced half an inch towards the left side. The spines of the second, third, and fourth lumbar vertebræ, were thrown an inch and a half backwards, forming a gradual projection, which gradually sloped again to the level of the spine. No fracture could be discovered by the touch, but on moving the body a grating was perceptible; the patient felt no pain from the examination.

Notwithstanding this apparently hopeless condition Dr. Simeons went earnestly to work, had his patient kept as clean as possible, improved his diet, and

regulated his bowels as well as the nature of the case would admit. He caused the inferior extremities and course of the spine to be rubbed with most powerful stimulants, and administered stimulants internally. Once he gave the patient a grain of phosphorus in four scruples of naptha vitriolata, and produced such a discharge of bloody urine, and such dreadful pain in the region of the bladder, as to convince him of the impropriety of this medicine. After that, for a long time, he took twenty drops of a mixture of oil of cloves with one drachm of naptha vitriol. The patient improved in appetite; his ulcers grew better, the smaller one healed, and by the end of August was able to change his position in bed by the aid of a cord from the ceiling. By the month of December he was able to sit upon the side of his bed with his feet upon the floor for an hour at a time. The diseased place on the buttock was diminished one-half, though another smaller ulcer had taken place over the right trochanter. Strength and digestion were restored to a remarkable degree, and in this condition the patient was living in January, 1828, with a fair prospect of still farther amendment.

We pass by Dr. Von Walther's reply to an attack made upon him by a writer in Vienna, because such writings have no place in this journal, and should not appear at all. If a candid inquirer after truth be assailed by the scurrilous criticism of one ignorant of the subject on which he writes, and solely solicitous to gratify an envious or malignant disposition, there is no reason why he should condescend to notice such aggression; as all who are qualified to judge of his merits will do him justice; and as to those not competent to judge, their opinions are of no importance.

Dr. Weber, of Bonn, has furnished a very good paper upon the most important parts of the human eye, accompanied by an excellent coloured plate of the parts, he most minutely describes. This paper is a critical examination of the minute anatomy of the eye, in which Dr. Weber passes in review the observations of Ruysch, Sœmmering, Jacobs, Meckel, &c. and indicates from his own anatomical researches various errors which have passed into currency among oculists. The observations of Dr. Weber are very creditable to his talents, and show that he is practically acquainted with this very important subject.

The paper of professor Mayer, of Berlin, consisting of observations and experiments upon upas, with a review of Dr. Horsfield's remarks on the same substance, is replete with interesting matter. But from the little probability that our readers will either have an opportunity of making similar experiments, or a disposition to introduce this substance into practice, were it to be procured, we shall not say more in relation to this memoir. In the succeeding number Dr. Mayer has some observations upon retroversion of the womb, the cicatrization of the womb after successful Cæsarian section, and congenital dropsy of the ovaries. The cicatrization of the womb, he remarks, has rarely been examined after the Cæsarean section had been successfully performed. He therefore describes the condition of a preparation added to the anatomical cabinet of Bonn, taken from the body of a woman, who, eight years previous to her death, had successfully endured the Cæsarean operation, by which the life of herself and child had been preserved. The operation was performed by Hofrath Velten, in March, 1813, who furnished the history of the case. The distance from the under edge of the symphisis pubis to the promontory of the sacrum was scarcely two French inches; the patient was thirty-six years old. The abdomen was

opened in the linea alba, and the incision through the womb extended five inches downwards. During the division of its parietes the womb did not contract in the slightest degree. The infant, a stout boy, and the placenta were removed from the womb, without any remarkable hæmorrhage ensuing, perhaps not more than a pound altogether. From the difficulty of bringing the now greatly relaxed abdominal parietes together, it was necessary to resort to stitches, and this is said to have been the most painful part of the operation. The patient, when questioned after her recovery as to her feelings during the operation, stated, that the sensation caused by the incision through the abdomen she could only compare to what would be produced by drawing a red hot needle over the skin. She assured us that the incision through the womb itself did not cause her the slightest degree of pain.* In the month of May, three months after the operation, the wounds were entirely healed, and mother and child enjoyed the best health.

Eight years after she died, and the uterus was examined by Professor Mayer, who found it in the following condition:—

"The uterus had perfectly regained its natural form and consistence. The length of the womb, from the superior part of the fundus to the edge of the anterior lip of the os uteri, was two inches, seven lines, (French,) long. The diameter, from the insertion of one fallopian tube to the other, one inch, ten lines. On the external surface of the anterior wall of the uterus, the place of the incision through it was indicated by a furrow about one-fourth of an inch long. The peritoneum adhered firmly to the substance of the womb at this point, and covered the furrow above-mentioned. The edges of the wound through the uterus were extremely contracted and drawn inwards; the cicatrix on the inner surface was two lines and a half long. It here projected into the cervix uteri, and commenced by a depression a line and a half broad. The anterior wall of the womb in the vicinity of the cicatrix was three lines thick, the posterior opposite thereto, four. The mouth of the uterus was natural; but a long, thin, fleshy polypus depended from the cervix. The fallopian tube and ovary of the left side were natural; on the right side the tube and ovary were grown together. Several cicatrices appeared on the ovaries. From the foregoing description it appears that as no new formed mass occupied the place of the wound made in the uterus by the Cæsarean section, but the edges were directly united, the union took place either by the first intention, or the intermediate substance, if such had existed, was subsequently absorbed."

We pass over a long and well written paper by Dr. Fest, of Potsdam, on fracture of the patella; with a description of a new apparatus, &c. to some papers by Dr. Camerer, of Langenau. The first of these is a case of dry gangrene, occurring in a patient sixty-five years old, which was successfully treated by Pott's method. It is true that spirits of camphor and various similar remedies were administered, but the large doses of opium appear to have been the immediate agent in effecting the cure. Opium was also externally applied to the gangrened extremity in form of liniment, and, in Dr. Camerer's opinion, with much benefit. His second paper is on the treatment of *pannus*, especially when oc-

* "Beim Einschnitte in den Uterus selbst gab sie uns die Versicherung, dass sie davon nicht den mindesten Schmerz empfunden habe!"

curring in scrofulous subjects. He had a patient, a young man of seventeen years old, over the whole of whose eye a dense mass of blood-vessels were enlarged, so as entirely to obstruct the sight, and even to prevent the eyelids from being properly closed. His treatment consisted of free purging by means of calomel, jalap, &c. and the application of leeches to the lid. When the inflammatory engorgement was removed, the cornea was found to be opaque; by persevering in the application of tart. emetic and cantharides salve behind the ears, keeping up a constant discharge, the opacity of the cornea entirely disappeared. The treatment was begun in the first part of July, and by the 10th of January, ensuing, the young man was perfectly well. The third paper of Dr. Camerer, is an account of a fatal case of spontaneous luxation of the cervical vertebræ. The patient was a woman of sixty years old, who for three months had experienced an extremely severe pain in the head, and a stiffness of the neck, which, however, did not prevent her from attending to her usual occupations. At length she applied to a surgeon, who applied leeches, bled her, and put a blister to the neck. The pain continued to increase daily, until it became so dreadful that she screamed aloud on the slightest motion of the head. On the 21st of July, she first sent for Dr. C. who prescribed for her very judiciously, regarding the disease as analogous to the morbus coxarius. But all treatment was ineffectual; the patient gradually grew worse, suffering horrible pain, and at length became paralysed, insensible, and expired.

A hard swelling occupied the space between the first and second vertebræ, and the neck was bent downwards to the left side. Throughout the disease the patient experienced an exceeding difficulty of swallowing, which Dr. Camerer properly attributes to the injury done to the glosso-pharyngeal nerve. This symptom is found uniformly to accompany this rare but dreadful affection, and according to Mauchart, (quoted by the writer,) who wrote in 1747, and had witnessed such a case, is described by Hippocrates and Galen as indicative of the disease. In the case attended by Mauchart, this difficulty of deglutition was not particularly remarkable.

Dr. Schütte, next, relates a case of inflammation of the caput gallinaginis urethræ, produced by riding on a badly constructed saddle. The symptoms, to a considerable degree, resembled those of gonorrhœa, except that the severe burning pain was felt deep in the perinæum, and produced great distress, the inflammation extending to the neck of the bladder and prostrate gland, and of necessity causing pain during evacuation of the bowels, &c. The urine was of a brownish colour and uncommonly fetid, mixed with a thickish, pus-like mucus. A thick, tenacious slime, mixed with blood, was discharged in considerable quantity during the night. Dr. S. saw him a month after the disease began, and found him so much reduced that he ordered him a nourishing diet, Peruvian bark, and opiates at night. For drink, barley-water, &c. The only medicine used with immediate reference to the urinary organs was a decoction of the uva ursi. Externally, a decoction of oak bark, with a small quantity of brandy, applied by means of cloths, cold to the perinæum; warm applications made the symptoms worse. He recovered entirely in three or four months.

The same surgeon relates a case of suppressio seminis resulting from inflammation of the prostate, and deferent tubes. This disease occurred in a labouring man, who had worked in a marsh for two days, standing in water up to his

knees, with naked limbs. He was married, and though he had proper erections, and coition was followed by the usual pleasurable sensations, no emission took place. On examination from the rectum, the prostate was found to be tumid, and the surrounding parts inflamed. He was treated for this inflammation, kept upon a light diet, and requested to abstain from sexual intercourse. Leeches were applied to the perinæum, and citrine ointment, mingled with sal ammoniac and extract of cicuta were afterwards rubbed upon the same place. In five weeks the prostate had nearly regained its natural size, but still no discharge followed connexion. Dr. Schütte then ordered an injection of tartar emetic, which was persisted in for eleven days. This immediately caused great pain, and an excessive discharge of mucus. On the seventh day of its application the ejaculation of semen in coitu was found to be perfectly natural. An infusion of bitters, and a solution of sal ammoniac were administered, with a view of giving tone to the stomach and removing the remaining enlargement of the prostate. The patient was entirely restored to health.

In the first number of Vol. XII. there are many papers of interesting character, particularly Dr. Græfe's report of the condition of the surgical and ophthalmic institution, and Dr. Hopfer's observations on extirpation of the ovaria, &c. Dr. Wolff has a very good article on suppression of urine and puncture of the bladder, which we mention cursorily, in order to express an opinion founded on a considerable experience, and a careful examination of such operations; we believe that the proper method of puncturing the bladder under almost all circumstances, is by cutting down to the membranous part of the urethra, nearly as in the operation for lithotomy, and opening the neck of the bladder. This at once gives the surgeon the opportunity of passing the catheter and withdrawing the urine through the natural passage, and affords the patient the best chance of speedy recovery. It is true, that it may be a little more painful to the patient, and demand rather more anatomical knowledge of the practitioner; but he who professes to be a surgeon, and has not anatomical knowledge enough to cut *safely* down to the membranous part of the urethra and neck of the bladder, disgraces by his ignorance the title he assumes.

Dr. Löwenhardt has communicated a method of checking the profuse bleeding which frequently ensues from leech-bites, which is as simple as it is successful. It is with a fine needle and thread to draw the edges of the little wounds together; the thread being passed through the cuticle only, gives no pain, and the bleeding is at once suppressed. A small quantity of powdered alum dropped on the surface of a leech-bite, will also check the bleeding very quickly, but it causes considerable smarting, which, in many cases, it would be well to avoid.

We have thus given our readers some idea of the contents of Græfe and Walther's Journal, but of necessity, the sketch is imperfect. A vast amount of interesting matter has not been remarked, because not immediately practical in its bearing, though well worth perusing by those who have access to the original. Hereafter we shall keep up a current report of the labours of our highly respected German colleagues, and shall therefore in future have it in our power to give more ample details from their writings.

J. D. G.

2. *A Practical Treatise on the Typhus or Adynamic Fever.* By JOHN BURNE, M. D. Licentiate of the Royal College of Physicians, London, &c. &c. &c. London, 1828. pp. 248. 8vo.

Of the present book, the medical critics will form very different, and many of them, opposite judgments. The Broussaian will find nothing to support his views, and will therefore throw aside the book as pertaining to the darker ages of medicine; the Cullenian will be startled at some admixture of modern heresy, while he applauds the divisions of fever, and the general tenor of the book; and the followers of our illustrious Rush will look in vain for those luciferous terms, unity of fever, excitability, stimulus, &c.; but the true eclectic in medicine will find in it much to commend; and, that unlike most other books, its greatest fault is brevity.

The author observes, "that all the notions which have been set forth concerning fever appear to him prejudiced, or vague, and undefined, serving only to perplex and embarrass." This is most certainly true, and must continue to be so while medical writers indulge their imaginations rather than exercise their memory; and thus, instead of patiently telling us how to cure *tute, celeriter, et jucunde*, a certain state of the system with a certain group of consequent symptoms, shall run into wild theories concerning remote and proximate causes, bewildering even their own imaginations with a confusion of transitory spectres, which all vanish in the light of experience. All these inventions, *quæti bene trovati*, this author has for the most part avoided, and has endeavoured to give us a plain transcript of what he saw, and what may be seen by others, in the old-fashioned style and manner. His book is evidently copied from nature. No man who has become acquainted with typhous fever can fail to recognise the disease in the pages of Dr. Burne. Not only therefore ought his history of this fever to be faithfully studied and confided in, but his opinions on controversial points ought to have a more than ordinary claim on our acquiescence.

Our author sets out by advocating the old division of fevers into *typhous* and *inflammatory*, a division which the writer of this article has long considered as of the first importance; and one that might have saved the lives of thousands, had it been duly studied before the prevalence of typhus pneumonoides in the United States. The unitarian doctrine of fever is a mere bubble of the imagination that ought to be blown aside without further notice. It was the embryo production of a great mind that was unfortunately lost in combating the very disease that would certainly have taught him more correct views. We remember with sorrow how much this doctrine of unity embarrassed our early practice, particularly in the treatment of typhus pneumonoides; and how we continually struggled with difficulties, until we escaped from the trammels of education, and found instruction in the school of Cullen.

The old word typhus our author has thought proper to abandon, because it has not been used in the same sense by all writers since the days of Hippocrates, and is therefore liable to misconception. Of the necessity or the utility of this change we are by no means convinced. All physicians, wherever English books are read, seem to understand thoroughly what is meant by idiopathic typhus. It is true that many of them extend the term to the dying stage of most other fevers—so also may they abuse any substituted word. Nor is the term which

Dr. B. has brought forward entirely free from the very objections which he alleges against typhus. Adynamic is by no means new, but on the contrary, has been applied extensively, and to fevers, too, which are not typhous. We are not among those who fancy that names are of no importance—nay, we should be rejoiced to see the old ones remain undisturbed till some can be invented that are indisputably better, and at least free from all the objections that lie against the first. Τυφω, I smoke or smoulder, is highly characteristic of this fever, and seems to distinguish it at once from the open blaze of synocha; but ἀδυναμια merely expresses a want of power which is too common to it and many other diseases. If, therefore, we look to the etymology of the words, we should decidedly prefer the first.

The author's title, adynamic fever, "is intended to include the putrid malignant fevers of Sydenham, the slow nervous fever of Huxham, (certainly his putrid malignant fever also,) the nervous fever of common language, the synochus, the typhus mitior and gravior of Cullen, the jail and hospital fever, the *fièvres essentielles* of the French, the epidemic of the Irish writers, the contagious of Bateman, the typhus of Dr. Armstrong, and the proper, idiopathic, or essential fever of Dr. Clutterbuck." This is precisely as it should be—he confines the term within its proper bounds. In brief, he means to designate the typhus petechialis of Cullen in its two varieties, *gravior* and *mitior*. This subdivision, however, he abandons, and describes the disease under four degrees of violence in a very lucid and intelligible manner. Dr. Armstrong's famous division, which has made so much noise in the world, and has been so extensively applied to other diseases, he does not notice. To this indeed there are so many weighty objections, that we are glad to find this highly practical writer, and faithful delineator of nature, has abandoned them.

In his etiology the author brings forth nothing new. He supposes that the fever results from a certain debilitating inguination of the blood, which is derived from the breathing of an impure atmosphere.

In his pathology he is an advocate for the old doctrine of idiopathic fever, and firmly believes that the disease has no local seat or punctum saliens; and, as he has endeavoured to establish his opinions by post obit examinations, he of course has a fair claim upon our attention and credulity. He has, however, by no means exhausted the subject, or made as extensive an argument as could be desired. This is one of the most important points in modern pathology, and the reader will be disappointed in finding that an author, so liberally endowed with the necessary abilities, and favoured with so many opportunities, has not pressed the argument with greater vehemence.

In the treatment of the disease we are grieved to find there is nothing new, nothing specific. However judiciously he uses the old apparatus, he has added nothing to it; so that we are left to go on in the old way of bleeding, purging, puking, with a copious list of stimulants, a class of medicines that are dangerous in almost any hands. Dr. B. is not an advocate for those copious bleedings which have lately been tried in the British metropolis, and yet he would appear to use the lancet with far more freedom than most other writers. He probably goes in the *middle way*, the safest path no doubt; for, if we are not greatly mistaken, the patient's life in this momentous disease will very often depend on the proper or improper loss of even five or six ounces, and also on the mere

point of taking this by venesection, cupping, or arteriotomy. It is really the Scylla and Charybdis of medicine where many intelligent pilots are wrecked. It is a subject which requires the most sedulous study of every man who is about to encounter this dangerous voyage.

On contemplating the *tout ensemble* of the author's treatment, we are disposed to indulge the most melancholy reflections on the progress of medicine as it relates to typhous fever. After all the immense experience which the last fifteen years has afforded in England and Ireland, the methods of cure of the most eminent physicians are very contradictory, and some of them irreconcilable. It was but a few years ago that an illustrious author brought forward cold bathing as an almost sovereign specific for typhous excitement; indeed so successful was Dr. Currie that hardly any thing else was needed—nothing, unless some eccoprotics, wine, and gruel. Here was no gastro-meningitis, for who ever heard of this disease, or any thing similar, being cured by a few buckets of water and a gallon of wine? But Dr. Currie was not mistaken in this matter, he was too much employed in this disease to be so egregiously deceived. On the other hand the physiological physicians would persuade us that the whole disease is symptomatic of a gastro-meningitis; and that some leeches to the head or stomach will eradicate this, and leave the system to recover with very little further assistance; while Dr. Armstrong, an illustrious name in medicine, finds that the various utility of bleeding, calomel, and warm bathing, are absolutely necessary to enable him to cope with the most vehement cases. The practice of Dr. Burne is that of the true eclectic; he takes a little from every system, and therefore makes up almost as many routines of cure as there are cases to be treated. This we believe is the true method in the present state of science, though it must be confessed that it is infinitely difficult and often dangerous in the execution. There is nothing certain, nothing specific; the physician is under the necessity of watching the disease with incessant care, and of accommodating his prescriptions at all times to the ever various states of the system, a perilous labour, and one which will too often foil the best informed practitioner, till he become fairly instructed in the school of experience. In all other fevers, if lesions be prevented or remedied, the disease will run its course with safety in good constitutions; but in this there is something mortal, which has thus far eluded the collective perspicacity of the medical world.

In many parts of the work there are new and useful observations which are too numerous to come within the compass of the present notice, particularly on the pulse, the state of the blood, suppression of urine with consequent effusion in the brain, and much more, for which we must refer to the book itself.

While we give the author, as we believe, his just meed of praise, it is not presumed that he has no faults. For these, however, we have not sought, nor do they properly come within the tenor of this notice. We should have been glad to find some enlivening quotations from standard books, with all the community of mind which results from collision of opinions. To sit down with an author who brings no one into notice but himself, is like spending an evening with a solitary stranger, instead of enjoying the sparkling collision of a full fireside of old acquaintances and friends. S. J.

Northumberland, Penn.

3. *Transactions of the Medico-Chirurgical Society of Edinburgh, Vol. III. Part. I.* Edinburgh, 1828. pp. 316, plates 4.

A number of the practitioners and teachers of medicine in Edinburgh, sensible of the advantages which may result from associations of medical men, intended for the communication of facts, and the interchange of opinions on professional subjects, and for the collection and publication of important practical observations so frequently made by gentlemen whose avocations do not permit them to undertake separate publications, instituted, on the 2d of August, 1821, a society similar to those which have conferred so much benefit on medical science in London and Dublin. As part of their plan, this society has selected and published the most interesting of the communications presented to them, under the title which stands at the head of this article. They have already given to the public two volumes and the first part of the third. The first volume contains twenty-six, and the second twenty-seven memoirs, most of which are extremely interesting, and many of them have been already noticed in the American Journal of the Medical Sciences.

The first part of the third volume contains eighteen communications. The initial article is entitled "Observations on Hospital Gangrene, with reference to the Disease chiefly as it appeared in the British Army, during the late war in the Peninsula," and is by J. Boggie, M. D. surgeon to the forces. This disease is deeply interesting to the military surgeon especially, as it prevails in its most aggravated forms, and produces the most deplorable consequences in military and naval hospitals and in ships of war, sometimes proving more fatal in proportion to the numbers affected by it, than any other disease. Dr. Boggie describes two forms of hospital gangrene, the first he denominates contagious gangrene, the second phagedænic gangrenosa. "When a wound or ulcer," he says, "is affected with contagious gangrene, it becomes painful and swollen, loses its healthy florid appearance, and the granulations, which were small and distinct, become flabby, and appear sometimes as if they were distended with air; at other times, vesicles containing a watery coloured fluid, or bloody serum, have been observed, and the sensation in the sore has been described as resembling the stinging of a gnat. The secretion of pus is suspended; the wound is dry and covered with a tenacious, viscid, ash-coloured matter, which adheres firmly to the surface. When this morbid state has existed for some time, a discharge takes place of a thin ichorous matter, of a very peculiar smell; the pain increases, the edges of the wound are reverted, and in general assume a circular form; an erysipelatous redness surrounds the wound, and sometimes extends to a great distance, even over a whole limb; the neighbouring glands, as those of the axilla or groin, swell, inflame, and sometims suppurate; febrile symptoms become apparent; the pulse is accelerated, full, and strong; the heat of the surface is much increased; the patient complains of nausea and thirst; the tongue is covered with a whitish or brown crust, and the bowels are in general constipated. The inflammation goes on increasing, the thin ichor continues to be discharged in great quantity, and a thick slough, apparently of coagulable lymph, covers the whole surface of the wound; the fetor becomes intolerable, and the pain quite insupportable. In the last stage there is in general an oozing of blood from the surface of the wound, and not unfrequently distinct hæmor-

rhage, from the corrosion or destruction of the larger blood-vessels. Sphacelus takes place to a greater or less extent; the strength of the patient fails; the pulse sinks; his countenance becomes collapsed and altered, the skin is bedewed with a clammy sweat; and a diarrhœa with hiccup coming on, the scene very soon terminates."

Though this is the most common form of the disease, Dr. B. is persuaded that the fever which accompanies hospital gangrene is not always of so phlogistic a character; often partaking more of a typhoid type; and it is of the utmost consequence in practice to attend to this distinction, as it will be found, that what would be a valuable remedy in the one case, might, if carried to any extent, be very pernicious in the other.

"The other form in which hospital gangrene usually manifests itself is more of a chronic nature; appearing then seldom in a recent wound. Most of the cases which I have seen of it have been in those of some standing, and in patients who had been long in hospital, many of whom had suffered attacks of hospital gangrene in the more acute form; after recovering from which, and when the wound was to all appearance doing well, the granulations healthy, secreting good pus, and sometimes even nearly cicatrized, a small dark-coloured spot or ulceration has appeared, most commonly on the edge of the sore, varying in its dimensions from the size of a millet seed to that of a split pea.

"This little ulceration was in general of a circular form, its edges ragged, its bottom unequal and excavated, and secreting a matter of a very peculiar smell. Ulcerations of the same kind not unfrequently appeared in other points, which, spreading in all directions, united, and soon extended over a great part of the wounded surface. At times, this ulceration has been known to go on, and to cause very considerable destruction of parts, without the system appearing to be much affected by it; but most frequently after it had spread to a certain extent, symptoms denoting constitutional irritation became apparent; these were nausea and loss of appetite, thirst, foul tongue, restlessness, a small and quick pulse, and heat of skin. After the febrile symptoms had appeared, the progress of the ulceration was more rapid, and very often extended beyond the limits of the original sore; the discharge became bloody, and the fetor peculiar to this affection more offensive. Sphacelus in many instances took place, and some time before death the same train of symptoms occurred, already described as taking place in the last stage of the more acute form of the disease. This is the depascent, or phagedenic form of hospital gangrene, or what may be called phagedæna gangrænosa."

The duration of the disease varies; it may continue for twenty days or even longer, or may terminate as early as the third day, in recovery or death. Patients are liable to frequent relapses.

From all the phenomena of the disease, Dr. B. thinks that we are warranted in "considering hospital gangrene, more especially that form of it named contagious gangrene, to be a peculiar inflammatory action attacking wounded surfaces; varying in its character according to the constitution of the patient, type of the accompanying fever, and other circumstances; nearly allied to erysipelas, if, indeed, it be not a modification of that disease, and depending on a diversity of causes, as I shall endeavour to make apparent."

The causes which induce this affection have never been very satisfactorily

explained. Dr. B. attributes it to the following:—Particular states of the atmosphere, inattention to cleanliness, acrid or irritating applications, stimulating food, intemperance in the use of wine and spirituous liquors, motion, or mechanical irritation, and specific contagion; and under each of these heads he cites many facts in support of his opinion. If these views of the causes of hospital gangrene be correct, they show that the ordinary means which have been employed for the prevention of this disease, such as ventilation, separation, fumigation, or breaking up the establishment where it prevails, will be of little avail so long as the true causes of the disease are overlooked. Dr. B. thinks that for the prevention of this affection in a recent wound, the great object to be held in view is to avoid all sources of irritation, and by all means in our power to keep down inflammation. From the moment of receiving the injury, a moderately antiphlogistic regimen should be prescribed, the wound kept cool, the discharges from it removed by careful ablution, and rest enjoined. Dr. B. recommends that no bandages be applied in the first instance to gun-shot wounds.

In the treatment of this disease, if the constitution be much affected, general remedies will be required; "if, on the contrary, the affection appears to be entirely local, the cure may be trusted to topical applications; but, in many cases, both the one and the other will be found to be necessary. It is of the utmost consequence, also, to attend to the type of the accompanying fever and to ascertain whether the gangrene is simple, or complicated with any other disease, such as scurvy, or bilious fever, in which case its character will be modified, and the corresponding treatment must also be different."

Dr. B. confines himself to the simple form of the disease, the treatment of which may be divided into general and local. When hospital gangrene occurs in a recent wound, and in young healthy men, or in men of the middle period of life, who are most frequently the subjects of it, the accompanying fever is, according to our author, almost always inflammatory, and blood-letting will be required, proportioned to the violence of the inflammation, and the age and strength of the patient. In men, however, of a less robust constitution, who may have lingered long in hospital, or suffered much from ill health, blood-letting is altogether inadmissible, or should be used very sparingly. As an auxiliary to general bleeding, Dr. Trotter has proposed local detraction, and Dr. B. though he has not employed it himself, thinks there is no objection to it.

Cathartics Dr. B. considers as "the remedies, next to blood-letting, the best calculated for lessening arterial action in inflammatory diseases: and the use of them was indicated in cases where that remedy was inadmissible, or at least not so much required. These cases were of a doubtful nature, where general inflammatory action existed to a certain degree, but where, from the long confinement of the patient, or his previous state of ill health, venesection could not with safety be employed, or where the fever was evidently typhoid. Among the poor in civil hospitals, purgative medicines will be found, in this disease, I suspect, unless in very extraordinary cases, to be the most useful, indeed the safest evacuants."

Emetics have been highly extolled, and Dr. B. has often seen them used, and sometimes with advantage; but he considers them as inferior to cathartics.

"The cases to which they are chiefly applicable, are those where the stomach is loaded, and where the fever appears to be of a bilious character."

Bark in the commencement of this disease, is entirely useless; but in the more advanced stages, when the inflammation has abated, it may be given as a useful remedy, either alone or in conjunction with the mineral acids.

The cold affusion has been recommended, but never tried in this disease. Dr. B. would expect agreeable results from sponging the body with tepid water.

"The violent pain which always exists in the commencement of this disease, seems to call for the use of opium; but as long as the fever and inflammation continue, it will tend only, both by its direct stimulating properties, and by deranging the functions of the stomach and chylopoietic viscera, to aggravate the symptoms. In the more advanced stages, however, when the inflammatory symptoms have subsided, should the patient complain of restlessness, it may be allowed, and then I have no doubt but that it will be found beneficial."

Camphor, Dr. B. thinks, may perhaps be used where opium would be improper; but he has no idea of its possessing any specific powers in hospital gangrene, and it appears to him to be applicable chiefly in the low state of the disease, which sometimes succeeds to great vascular action, or where the fever is evidently typhoid. In such cases he has occasionally used it with good effect.

"The use of wine, as is observed by Dr. Thomson, in the early stage of hospital gangrene, is liable to still stronger objections than opium, for it adds to the violence of the fever, without having, like opium, a tendency to sooth or diminish the local pain." But in the advanced stages, in poor, old, infirm people, or where the patients have lingered long in hospitals, and their health has been broken by previous disease, or where the fever is evidently from the first of a typhoid character, it will be very beneficial.

"The diet, in the first instance, should be very light, consisting chiefly of farinaceous matter; indeed I ought rather to say, that an almost total abstinence should be enjoined; but when the febrile symptoms abate, it may be made more nourishing. The drinks should be of the weakest kind, such as tea, water gruel, and lemonade. Ripe fruits, such as oranges, may be freely used; and from the first, the regimen altogether ought to be strictly antiphlogistic."

A great variety of topical applications have been recommended in this disease. When the inflammation continues violent, cold applications, such as water alone, rendered colder artificially, and solutions of sugar of lead, are what Dr. B. prefers. To obtain all the advantage from the sedative effect of cold, cloths dipped in the liquid should be applied to the part, and kept constantly moist.

Poultices of all kinds Dr. B. considers as objectionable.

"When the inflammation abates, the sloughs separate, healthy pus is secreted, and florid granulations spring up: when this is the case, the wound should be dressed simply with dry lint, over which a pledget of emollient ointment ought to be applied, and the whole supported by a good compress and roller. Should the sloughs continue to adhere after the inflammation has abated, some stimulating application, such as a mixture of resinous ointment, and oil of turpentine, known by the name of warm dressing, may be made to the wound, or an ointment composed of unguent. resinosum and oxyd. hydrarg. rubrum, in the pro-

portion of ʒi. of the latter to ʒi. of the former. On such occasions I have also found the diluted nitric or muriatic acids, or the citric and acetic acids, good applications: in the same cases a solution of argentum nitratum will be found very useful. It is in this stage of the inflammatory gangrene, that warm fomentations and poultices may occasionally be employed with advantage, and that the stronger escharotics, such as the concentrated mineral acids, caustic alkalis, arsenical solution, or the actual cautery, may be used most successfully; but it is not improbable, that escharotics, applied at a very early period, when the morbid action is just commencing, may sometimes, particularly in old wounds, arrest at once the progress of the disease. A more generous diet may now be allowed, and even a small quantity of wine. But although the patient has arrived at the stage of convalescence, and may be considered as safe, I can affirm, from extensive experience on this point, that if he be guilty of any excess, more especially in drinking, of using exercise, of not attending to the proper dressing of the wound, or neglecting the state of the digestive organs, he is almost certain of suffering a relapse, when the same train of symptoms will be renewed, and the danger of the patient will be infinitely greater, and exactly in proportion to the state of debility to which he is reduced.

"Those who are entrusted with the charge of patients in this state, cannot be too attentive to the proper dressing of their wounds. The new granulations continue long very weak, and extremely liable to fall into disease; and the danger of this will be in proportion to the extent of the renewed surface. Nothing favours this diseased action more than inattention to the cleanliness of the wound, and the want of due support from proper bandaging. When the discharge is long confined, it becomes acrid and even poisonous, and from this cause, more than any other, I conceive, that that form of the disease named phagedæna, most frequently arises. If the discharge continue very abundant, the dressings should be frequently renewed, and some astringent lotion, such as a weak solution of acetas plumbi or sulphas zinci used at each dressing; after which powder of Peruvian bark may be applied to the wound as an absorbent. In this case also, it may be taken internally, with very good effect. Should phagedæna supervene, which may be known by the appearance of a small dark spot or ulceration, escharotics should immediately be applied.

"This form of the disease, in the first instance, is purely local, and we are almost sure of putting a stop to its progress, by local remedies alone. Those which I have been chiefly in the habit of using are, argentum nitratum and oxyd. hydrarg. rubr.; but the undiluted sulphuric, nitric, and muriatic acids, and the caustic alkalies, have also been often employed with the same intention."

"An incipient phagedæna may be often removed by one application of the precipitate, but if the ulceration has made much progress, or has penetrated deep into the soft parts, several applications may be necessary, as the eschar only penetrates to a certain depth." In the same cases the solution of arsenic may be employed. Mr. Blackadder is of opinion, that hospital gangrene, under any form, may be speedily and certainly cured by the arsenical solution.

Dr. B. thinks that in cases which have resisted other means, we should not hesitate to employ the actual cautery.

With regard to amputation, which it has been said, may be performed with success, even when the gangrene is extending, Dr. B. is of opinion, that where the

disease is entirely local, without the constitution being much affected, the operation may be performed, and without any risk of the disease returning, or affecting the stump; but in contagious gangrene, in which there is always inflammation to a greater or less degree with fever, he considers such practice extremely dangerous, and contrary to all the rules which have ever been laid down on this subject. The operation, he thinks, should never be thought of, until the fever and inflammation abate, and then, in all probability, the progress of the gangrene will be found to be stopped.

There is a species of gangrene complicated with a violent remittent fever, like the yellow fever, spoken of by Dr. Hennen, and also seen by Dr. Boggie, which may be mistaken for hospital gangrene, but which is said to be very different. It appears to be symptomatic of constitutional derangement, and has proved fatal in all the cases met with by Dr. G.

This interesting memoir is concluded with a tabular view of the mortality in the Cordeleria Hospital, where the hospital gangrene prevailed, showing the decrease of mortality on the introduction of an antiphlogistic treatment.

The second article is an account of a remarkable case of crural hernia, by George Ballingall, M. D., F. R. S. E. &c.

The third memoir is on the natural or spontaneous cure of syphilis, and is by John Wilson, M. D. of Hull. The object of the author is to show that syphilis may occur spontaneously, and that it may be often cured by antiphlogistics; two facts that we believe are now proved beyond cavil or dispute.

A case in which a polypus of great size was removed from the root of the tongue by ligature, by Richard Huie, M. D. &c. and which constitutes the fourth article, we have transferred to our periscope.

An account of the viscera of the common sword-fish, (*Xiphias gladius*, Linn.) by Robert E. Grant, M. D., F. R. S. E. follows, this not being particularly interesting to us as physicians, we pass over.

The sixth article is an account of the epidemic erysipelas which appeared in Montrose and the neighbourhood in 1822, by W. Gibson, M. D. In the month of February, 1822, Dr. Gibson saw at Arbroath several cases of erysipelas, the appearance and history of which convinced him that the disease, as it then prevailed, was of a contagious nature, and shortly afterwards instances of the disease became so frequent in Montrose and the neighbourhood, and were marked by such peculiar circumstances as to leave no doubt on the minds of the medical men that it was prevailing in this latter situation also epidemically, and it continued to do so for about four years. It differed, according to Dr. Gibson, from the sporadic erysipelas as observed in former times, in the greater severity of the symptoms, and its greater fatality, differences, which can, however, hardly be considered as specific. "The disease was not so much confined to the head or face, as common erysipelas, but it frequently attacked other parts of the surface of the body. Sometimes the internal fauces were attacked, and if it spread to the trachea, it generally proved fatal. It spread more rapidly and much more extensively. It was followed, in almost every case, by extensive diffuse suppurations in the cellular substance—particularly when other parts than the head were attacked, and sometimes by sloughing of the parts affected. It frequently supervened on wounds, particularly if they were situated on the head or face, sometimes on ulcers. Occasionally, the disease seemed to be con-

fined to the cellular membrane, as extensive suppurations would occur with little or no apparent disease of the skin, and even without any redness."

The next article is a case of congenital disease or malformation of the thigh-bone, illustrating the interstitial absorption of the cervix femoris, by Robert Knox, M. D. &c. It occurred in a child two years old, who died of a lingering and obscure disease. On cutting into the hip joint, all its parts were found sound; the acetabulum not changed in form, inflamed, or in any way affected, and the head of the femur also in a perfectly natural state; "but the neck of the bone might be said to have disappeared. The trochanters appeared much longer than usual, and more particularly the larger trochanter; the head of the bone, in consequence of the disappearance of the neck, had become, to use the language of botanists, *sessile;* it had descended to a level with the trochanter, and indeed bore the strongest miniature resemblance to those specimens of diseased femur, which, from the days of Trioen, to the present time, have been imposed on the profession as specimens of bony union following fracture of the *cervix femoris.*"

The eighth article is on the sudden spontaneous obstruction of the canals of the larger arteries of the body, with some observations on the process employed by nature to prevent or arrest hæmorrhage from lacerated arteries, by John W. Turner, Professor of Surgery to the Royal College of Surgeons, &c. It has been sometimes observed that the pulse has suddenly and permanently ceased in one part of the body; and in some cases of this kind, on examination after death, it has been found that an obliteration of the tube of the artery had taken place. Of this morbid affection which appears to have escaped notice till lately, Mr. Turner has given a very interesting account, and related many cases which have fallen under his own observation, or which have been observed by others. The first case is related very minutely, and we shall take an early opportunity of laying it before our readers. Mr. Turner adopts the explanation suggested by Dr. Thompson, that the obstruction in these cases is "produced in the same manner as hæmorrhage is sometimes prevented in arteries which have been torn across, and, as he believed, obstruction of the arteries had been occasioned, in some cases of gun-shot wounds which he had observed, where the ball had passed close to the trunk of an artery without dividing it; viz. by the laceration of the internal coats of the vessel, and the projection of their edges and flaps into its tube, by which an obstruction is immediately produced to the passage of the blood, the detained portion of this fluid coagulates, and afterwards the vessel is obliterated by the adhesive inflammation excited in the site of the lacerations." The rupture of the internal coats of an artery is not, however, always followed by the obliteration of the vessel, it perhaps more frequently gives rise to aneurism.

Arteries is not always obstructed or obliterated by the cause already noticed; it is sometimes produced by the pressure of tumours, the spontaneous cure of aneurisms, thickening of the internal coat of the artery, &c.

Art. IX. is a case of aneurism of the aorta, with disease of the spinal cord, by Thomas Molison, M. D. &c.

Art. X. is a case of strangulated umbilical hernia, by James Simson, M. D. &c. the most interesting fact relating to which is that it is operated on with success.

Art. XI. is on a remarkable alteration in the structure of the patella, produced apparently by the presence of a loose cartilage within the cavity of the knee-joint, by Robert Knox, M. D. &c. This occurred in a female about thirty years of age. There was found developed, apparently, in the tendon of the extensor, and surmounting the upper margin of the patella, an additional bone as if a second patella. "The remaining portions are three; a large central portion, corresponding to the regular patella, whose inner or articular surface is evidently undergoing the same change as that surface of the femur on which it must chiefly have played, namely, the outer condyle: and on the margins of this patella, viz. on the internal and inferior, but, at the same time, somewhat external margins, there are two additional portions of bone, of considerable magnitude, organized, apparently, altogether as the original patella, and performing similar functions."

Art. XII. is a case of disease of the heart, by J. H. Wishart, F. R. S. E. &c. an analysis of which we shall insert in our periscope.

Art. XIII. Observations on the causes of the sounds produced by the action of the heart, by John W. Turner, Professor, &c.

If the ear be applied to the chest in the region of the heart, either directly or through the medium of the stethoscope, there are perceived for each pulsation of the arteries, two sounds or beats following each other in immediate succession, and then a short interval is observed, during which no action or motion of the heart is perceptible, and after this the two consecutive sounds are again heard. These two sounds have been considered and described as indicating the successive contractions of the ventricles and auricles. M. Laennec states "'at the moment the artery strikes the finger, the ear is slightly raised by a motion of the heart synchronous with that of the artery, and accompanied by a sound somewhat dull but distinct. The synchronism does not permit us to doubt that the phenomenon is owing to the contraction of the ventricles. *Immediately after, and without any interval,* a sound more sharp and analogous to that of a valve which is raised, the crack of a whip, or the lapping of a dog, announces the contraction of the auricles.' He adds, 'no motion sensible to the ear accompanies this sound; *no interval* separates it from the duller noise accompanied by the raising of the ear, that indicates the contraction of the ventricles, which it seems to limit and to interrupt suddenly.' 'Immediately after the systole of the auricles, there is an interval of repose, very short, but well marked; after which the ventricles are again perceived to raise themselves with the dull sound and gradual progression which are peculiar to them; the sudden and more sonorous contraction of the auricles follows, and the heart again falls for an instant into an absolute immobility.'"

Mr. Turner has long been doubtful as to the accuracy of this statement, and he has satisfied himself by various reasons that it is incorrect. He is of opinion that the first sound is owing to the contraction of the ventricles, the second to the impulse occasioned by the falling back on the pericardium, of the relaxed heart in its diastole, after it has been elevated or moved from its place in the systole; and perhaps also by the expansion or dilating of the heart.

Art. XIV. On a new method of preserving anatomical preparations, by John Davy, M. D., F. R. S. &c.

This method consists in immersing the part to be preserved in sulphurous acid, which may be prepared in a manner equally economical and easy, by

burning sulphur matches* over water, in any appropriate vessel, agitating the water when the match ceases to burn, and when the water is sufficiently impregnated with the acid gas, filtering the solution to render it clear and transparent. The principal advantages of this method consists, Mr. Davy says, 1st, in its great cheapness; 2dly, in the durability of its preservative powers; 3dly, in the clear and instructive manner in which it displays the minute structure of textures and compound parts. "It does not, like spirit of wine, and a solution of alum, contract what is immersed in it; it does not, like a saturated solution of common salt, or of nitre, or of any of the salts of chlorine which I have tried, after a little while, lose its transparency and become thick and turbid; nor does it like a solution of corrosive sublimate, deposite on the inside of the glass and on the preparation itself, a crust which soon becomes a complete mask. On the contrary, it expands and developes the parts, some more, some less, so as to magnify them and make them more distinct, effecting in structure what the lens does in vision; and at the same time it remains clear, so that the lens still may be employed to heighten the effect and convey still more minute information of the object."

Art. XVI. Observations on the effects of the sun's rays on the human body, by John Davy, M. D. &c.

It is well known that exposure to the sun's rays renders the skin brown, but the manner in which it produces this, the parts of the skin in which it takes place, or its exact causes, or its consequences, have never been minutely investigated. Dr. Davy has examined this subject experimentally, and from the observation he has made, and from analogical reasoning he is disposed to believe that the discoloration takes place beneath the cuticle, and that the seat of it principally is the surface of the cutis. His experiments relative to the cause of the discoloration are not as satisfactory as could be wished, but they show that the effect is produced solely by the undecomposed rays, and he thinks that they act "both indirectly by the medium of inflammation in changing the colour of the skin, and directly, without the intervention of inflammation, in producing the same effect, or in heightening it when produced."

Sir Everard Home has shown that when the skin is painted black, it is defended from the scorching effect of the sun's rays; and from thence he infers that the dark rete mucosum of the negro possesses the same protecting power. Dr. Davy has made experiments similar to those of Sir E. Home, and modified them, and with the same results. He has, moreover, found that all the opaque colours which he applied to the skin, whether red, orange, blue, or green, afforded protection from the scorching influence of the sun's rays, equal to that afforded by black. "There is this difference, however, between the skin of a white person painted, and of a negro with a black skin; that in the one instance, the black surface is laid on the semi-transparent cuticle, whilst on the other, it is situated under the cuticle, and on the surface of the cutis. In the one instance, the extinguishing medium is external to the insensible covering of the body; in the other, it is in contact with the sensitive surface, and may be considered as a part of it. Circumstances, too, relative to the very great penetrating power of the sun's rays, have had rather a similar tendency to augment

* These are best made for this purpose by dipping cotton thread in melted sulphur.

my doubts of the strict accuracy of this analytical conclusion. As the facts which I now allude to, appear to me to be new and curious, I shall mention some of them. When the sun's rays are concentrated by a lens, they penetrate, I find, through bone, as a portion of the cranium; through nine folds of black crape; and, what is most extraordinary, through rolled platinum. It was easy to ascertain their penetrating through the former substances, by a luminous point appearing on a surface beneath; but through the opaque platinum no light passed, yet the rays of heat passed, which was best indicated by the sensation produced when the metal was placed on the sensitive skin, the only part of which affected was that corresponding to the focus of the lens, the metal itself not becoming sensibly warmer. Taking then into consideration the difference between the painted cuticle and the dark 'rete mucosum,' and this very remarkable penetrating power of the sun's rays, it appeared to me that more direct experiments than those of Sir Everard Home were requisite to ascertain beyond all doubt, if the function of the colouring matter of the skin of the negro is really such as it has been inferred to be. With a view to this, I have subjected the skin of the negro to the direct rays of the sun, and I have made a similar trial on a mole on a fair skin."

From the result of these experiments, Dr. Davy is "disposed to infer that the colouring matter of the skin of the negro affords some protection from the scorching effects of the sun's rays, but not complete protection, and that were his skin as much disposed to inflame from the action of the sun's rays as the skin of the fairest European, this colouring matter would not prevent occasional vesication."

Art. XVIII. Additional cases and observations illustrating the origin of tubercles, by W. P. Alison, M. D., F. R. S. E. &c. and Joint Professor of the Institutes of Medicine in the University of Edinburgh.

Dr. Alison, some time since, presented the society with a communication, tending to elucidate the two following questions:—"1st. Whether the scrofulous diathesis, or disposition to scrofulous disease, unfortunately so prevalent in our climate, is to be regarded as the result of the climate alone, or whether other and more remediable circumstances in the mode of life of those who become so affected, contribute generally and powerfully to its production; and 2dly. Whether the deposition of tubercles, so often the original cause of danger and death in scrofulous diseases, is to be regarded in any case, or in any considerable number of cases, as an effect of inflammatory action."

On the first of these questions, Dr. A. has since obtained evidence from various quarters, tending to confirm him in the opinion that in regard to the tendency to scrofulous diseases, and particularly to those in which tubercles are formed, there is a greater difference between the inhabitants of large towns and of the country, than between the inhabitants of the warm and cold climates, at least of Europe; and therefore, that the general prevalence of the scrofulous diathesis is to be ascribed, rather to the modes of life which an advanced and artificial state of society implies, than to the circumstance of climate.

In regard to the second point, Dr. Alison's "object was not to explain the whole history, and all the possible causes of tubercles, but only to investigate the question, which seemed of the greatest practical importance. Whether or not inflammatory action has, in any circumstances, the power to produce them?" That it has, the most satisfactory evidence appears to us to have been

furnished by Dr. A. in his interesting paper, and by others; and we agree with Dr. A. "that scrofulous tubercles may be, and often are deposited in consequence of inflammatory action; and therefore, that as, on the one hand, scrofulous diseases may be in many cases prevented by applying the *tonic regimen* to persons of feeble constitution, but not yet affected with actual disease; so, on the other, they may also be frequently prevented by the early and prudent use of the *antiphlogistic remedies* in those in whom the slight inflammatory complaints so often preceding them have already appeared.

"This general conclusion does not differ from that which I believe the greater number of practitioners have been induced to form from their own practical observations; but it seems to me of great importance to have attained to it by pathological inquiries, founded on fatal cases, because, until the pathological question as to the frequent dependence of tubercles on inflammation is determined, no observations on the effect of the antiphlogistic remedies, where tubercular disease is apprehended, if made on cases that terminate favourably, can be held to be conclusive on the subject."

Under the head of pathology, in the periscope of the present number, will be found the views of Dr. Bouillaud respecting the formation of tubercles, and which are confirmatory of those of Dr. Alison.

The concluding paper is a supplement to the article on the obstruction of the canals of the arteries, by J. W. Turner, Professor, &c. containing two cases of laceration of the popliteal artery, from dislocation of the knee-joint.

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4. *Literarische Annalen der Gesammten Heilkunde.* Herausgegeben von Dr. Justus Friedrich Carl Hecker, &c. Vierter Jahrgang. September, 1828. Berlin.

The Literary Annals of Medicine, published under the immediate superintendance of Dr. Hecker, exhibits on its list of collaborators, the names of some of the most distinguished German physicians; among these may be mentioned Von Ammon, Carus, Otto of Copenhagen, E. Von Siebold, Lichtenstädt, and numerous others conspicuous for their high acquirements in the various departments of medical science. The annals appear monthly in numbers containing from 120 to 130 pages, at eight dollars per annum. It is printed on better paper, and with more typographical neatness, than any other journal we have yet received from the same country; like the journal of surgery and ophthalmology it is printed in the Roman character, which we hope will soon entirely supersede the inelegant Gothic types, in all scientific German works. The contents of the present number of the Annals are thus arranged:—1st. Original articles; 2d. Critical notices: A. Practical medicine; B. Medical police; C. Clinical medicine, clinical institutions; D. Obstetrics; E. Materia medica; 3d. New publications; 4th, New Journals of medicine.

There are two original papers in the number before us; the first is by Dr. M. A. J. Schön of Hamburg, and is a collection of cases of diseases of the heart and large vessels, with dissections. Six cases are related, and the symptoms from which he formed the diagnosis are minutely detailed. Dissection, however, generally revealed a condition differing greatly from the anticipations of the practitioner. The diseases observed were chiefly results of chronic inflammation of

the enveloping and lining membrane of the heart, producing enlargement of the cavities, thickening of the semilunar valves; inflammation and dropsy of the pericardium; aneurismal enlargement of the arch of the aorta, &c. In the cases where the heart was found to be most diseased, no obvious external cause could be assigned; the patients had generally been affected with pulmonary irritation or inflammation, mostly attended by cough. In one case, the patient a female of fifty-six years old, the physician thought the disease to be hydrothorax, combined with general dropsy. On dissection, the chest and pericardium were found to contain a great quantity of yellowish fluid, but the cause of all the morbid changes appears to have been an enlargement of the right auricle of the heart, and the free communication with the left by the foramen ovale, which was altogether open, so that very little blood was sent into the pulmonary vessels. To the practitioner the perusal of these cases in detail could not fail to be instructive and agreeable; we cannot introduce them here on account of their number and length; nor can we say that any general inference of importance is to be drawn from them, except it be, that the difficulty of the diagnosis in such cases, should deeply impress practitioners with the necessity of acquiring skill in the use of the stethoscope, which alone can enable them to prescribe with the requisite degree of accuracy in diseases of the chest.

The second paper is on acute idiopathic inflammation of the heart, by Dr. A. H. Krause of Berlin, in which he gives an account of a case which occurred in his own practice. Dr. K. prefaces his observations with some remarks on the diagnosis of this rare but dreadful disease, and quotes from a treatise by Dr. Heim of Berlin, published in 1819, the symptoms which that practitioner has stated to be pathognomonic. We have never had the advantage of seeing Dr. Heim's treatise; this practitioner witnessed three cases of this disease, and his diagnostics are stated by the present writer to be admirable; we therefore extract them from Dr. Krause's paper for the benefit of our readers.

The disease begins with shivering and trembling of the whole body, and intermittent chill, which latter when present may continue during twenty-four hours, but is followed by very little or no heat. There is no acute stitch felt, but pains in the heart precede the distinct attack for twenty-four hours. Sometimes the disease comes on suddenly. The patient has no cough; if in any instance cough occurs it is entirely dry, neither mucus nor blood being expectorated. In the commencement the patient has the greatest anguish and the most agonizing pain, not in the chest generally, but immediately in the heart itself. The patient shrieks out and is not quiet more than a second, repeating with great force the same word three or four times to express his most distressing sensations. He does not lie still an instant, but tosses himself about in bed like one half distracted, while his arms and head are in continued motion. The patient presses upon the region of the heart, and if pressure be made by a bystander, he impetuously demands that it shall be increased. The countenance is always extremely pale. The chest is elevated, and the head which is in perpetual motion is thrown more backwards. The face and hands are quite cold. Before each necessary bleeding, the pulse is throughout not to be felt. The patient feels every movement of the heart, and even complains of its painful throbbing, yet when the physician applies his hand to the chest, he cannot discover the least irregularity. The stronger the pulsation of the heart is, the greater is the pain felt in the organ;

it seems to the patient to strike upon a wounded spot. He is nauseated, but does not vomit; the greater his thirst is, so much the more does he refuse to drink, even when a glass of water is held to his mouth. He is very loquacious, even when otherwise naturally silent; we might also say physically, what the scriptures assert morally, that "out of the fulness of the heart the mouth speaketh." Fainting and delirium are not uncommon.

A copious bleeding is followed by so great an alleviation of anguish and pain, which lasts for several hours, that the patient thinks himself quite cured. But the symptoms suddenly return again after the cessation. The anguish and pain is increased by warm applications to the chest, and the patient throws them off. If the treatment be neglected, or improper, the patient dies either in consequence of polypous formations on the internal or external surface of the heart, as well as on the internal surface of the pericardium, or with adhesions of the heart to this membrane, and effusions of pus or water into the cavity of the pericardium.

The case related by Dr. Krause, in which also he had the assistance of Dr. Heim, manifested the foregoing symptoms in a striking manner. By free and ample bleeding, and the use of digitalis, &c. the patient was quite restored to his usual health in ten or twelve days.

The critical part of Hecker's Annals, as might be inferred from the character of those engaged therein, is executed in a candid and dignified spirit, with a single eye to the great interests of the profession. Long may they continue their meritorious efforts in the cause of science and humanity.

Before we conclude our present observations on German journals, there is one topic they suggest, to which we cannot avoid calling the serious attention of our professional brethren, especially of such as occasionally publish their experience for the benefit of others. The great aim of the German medical writers is to express themselves in *pure* German. Consequently their journals are not disfigured, deformed, and obscured by a pitiful and ignorant pedantry which induces some of our writers frequently to interlard their remarks with *foreign words* and *phrases*, as if our language were too poor to express their ideas, or too ignoble to utter their important conceptions with sufficient magniloquence. If they would recollect that a comparatively small number of those who are to read their remarks, are at best but tolerable classical scholars, and a majority of them, totally unacquainted with French, Italian, &c. they would probably confine themselves to words to be found in the best generally used English dictionaries. Nay, we can assure them that if they cannot express their observations or ideas in good English, they are either excessively ignorant of their mother tongue, or their notions are not worth the trouble of writing down; as there is no word, nor combination of words expressive of ideas, in *any language*, which may not be *fully* rendered by an immediate equivalent, or by a perfectly idiomatic periphrase, into English. If every writer were allowed to show what foreign languages he may have learned, or has a smattering of, (and why is it not as allowable to use the expressions of one foreign language as another?) our books would soon become a jargon, worse than any of the dialects of Babel. In fact, good scholars never make use of such shallow devices to display learning; and as a general rule, it may be safely assumed that the learning of the individual is in the inverse proportion to his employment of such fo-

reign fragments. It would be invidious, (and we have no wish to point at persons,) were we to refer to special instances of such sins against good sense and good taste; but as the evil, if unchecked, is of a nature to increase, we deem it a duty to call attention to its magnitude. The English language, though wanting in many peculiarities that other tongues possess, is nevertheless a noble and powerful dialect, capable of every variety of expression required by the conditions of life and sociality. To render it still more suitable to all purposes, it is proper that every writer, instead of snatching up the first foreign word that may convey his thought, should be at some pains to ascertain whether he could not find a far better expression in the language used by those to whom, and for whom he professes to write.

J. D. G.

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5. *Medical Essays on Fever, Inflammation, Rheumatism, Diseases of the Heart, &c.* By Joseph Brown, M. D. &c. London, 1828, pp. 309, 8vo.

Each of the subjects treated on by Dr. Brown, is of sufficient importance to fill a volume of much larger size than that with which he has favoured us. His materials are good, and fraught with interest, presenting what in this age of book-making, is almost a phenomenon, a series of original and practical observations on many highly interesting points of pathology and practice.

Dr. Brown commences his essay on fever with a short but lucid view of the effects of malaria, the most extensively diffused, and probably the most active cause of the generality of febrile diseases; our author, thinks with M'Culloch, that many other complaints, besides fevers, strictly speaking, are attributable to this agent, though he does not extend the list to such a formidable length as that writer.

Whilst speaking of typhus, Dr. Brown makes the following just and forcible remarks; "There are few words, of which the import is more vague than 'typhus;' its misapplication from carelessness, or occasionally from reasons of a more reprehensible nature, is so general, that it is to be wished it were either more strictly defined, or altogether banished from our vocabulary."

Dr. Brown is a violent opposer of the doctrines of Broussais, and has for some time carried on a controversy with him; we shall not attempt, in this place, to analyse his arguments, but will give his own theory of fever, without further comment, than, that it is by no means a new one.

He considers that the nervous system is affected at the very commencement of the attack, and that in most cases of continued fever, this affection endures, and displays itself by perceptible signs, to the close. The vascular system is either simultaneously or subsequently disordered; and, in a short time, those of secretion, assimilation, and nutrition, follow in their train, and the disease becomes one "of the whole system, in every kind of sense." Dr. Brown admits, that the excited state of the circulation, is accompanied by inflammations of important vital organs, which must be controlled and subdued, but, he also considers that this is not sufficient to cure the fever, regarding these inflammations as occasional and important concomitants, rather than the cause of the disease.

The general views of the treatment to be adopted in fevers, are good, and deserve attention, particularly those on local bleedings, and purgatives; and

prove that, although our author is a violent opposer of the Broussain theory, he has been led to an analogous practice.

Essay 3d, Is on Inflammation, and contains some valuable practical observations, on the different plans of treatment to be pursued.

Essay 4th, On Rheumatism, is a kind of preface to the succeeding one, on Diseases of the Heart, which appears to be a short, but excellent monograph of the disorders of that vitally important organ. Dr. Brown attributes one half of the diseases of the heart, to rheumatism; this fact, which has been overlooked by many writers, is, however, supported by Scudamore; our author supports his observations by adverting to the anatomical structure of the parts, and particularly of the continuity of the investing membrane, with the fibrous texture which is the seat of external rheumatism; he quotes largely from the excellent description of this arrangement, as given by Dr. Godman, in his "Anatomical Investigations."

"If this description of the formation of the pericardium be correct, and I see no reason to question its accuracy, then will the circumstance of this membrane being frequently assailed with rheumatic inflammation after bleeding, be merely a part of the general fact long acknowledged, and such continuity certainly tends to explain the frequency of the affection of the pericardium." We are glad to see this testimony paid to the talents and observation of our learned colleague, by a foreign writer.

Dr. Brown's monograph, of the Diseases of the Heart, is, by far, the most interesting part of his work, and his stethoscopic indications, of the various forms of derangement of organization and function, are lucid, and well-arranged. It will well repay a careful perusal. R. E. G.

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6. *Laws of Physiology, translated from the Italian of* Il Signor Dott, B. Mojon, *Professor Emeritus in the Royal University of Genoa, and member of many Learned Bodies; with Additions, and a Physiological Table of Man.* Dedicated by permission to Sir Astley Paston Cooper, Bart. F. R. S. Surgeon to the King. By George R. Skene, Member of the Royal College of Surgeons in London. London, 1827, 8vo. pp. 121.

The character of Mojon's Laws of Physiology has been for some time established, as a satisfactory digest from the experiments and systematic works of the most approved physiologists of all countries. They may be read with advantage by all who desire to obtain in a condensed form, the results of the actual condition of physiological knowledge. We have not had an opportunity of comparing the translation with the original, but should infer that it has been fairly rendered into English.

To Mr. Skene we cheerfully give the credit of activity and zeal, combined with a spirit of inquiry, which, under proper guidance, may lead him to high honours. We have not room nor inclination at present to examine his particular theories in detail, though the impression we have derived from them is, that they are more strongly characterized by novelty, than by legitimacy of deduction from premises. However, we would encourage him to pursue his researches with steadiness, and endeavour to acquire that solid fame which is the certain result of a zealous application of philosophy to the study of nature.

His dedication to Sir A. Cooper is strikingly neat, well adapted, and tersely expressed, and might serve as a model to some of our American brethren, who, even in this land of intellectual independence, occasionally produce dedications unrivalled for nauseous adulation and servility.

J. D. G.

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7. *A Manual of the Anatomy, Physiology, and Diseases of the Eye and its Appendages.* By S. J. Stratford, Member of the Royal College of Surgeons in London, Surgeon to the Dispensary for Diseases of the Eye, and late Senior Assistant-Surgeon to the 72d, or Duke of Albany's own Highlanders. London, 1828. pp. 199, 8vo, with a plate.

Much attention has been given in Great Britain, within the last few years, to the diseases of the eye, and these affections, so long abandoned by the profession, are now considered as constituting a branch of surgery, with which every regular surgeon should be conversant. This beneficial change is in part owing to the pathological researches of Wardrop, still more to the zeal and efforts of the late Mr. Saunders, and perhaps above all to the ravages produced by the puriform inflammation of the conjunctiva among the army, whilst in Egypt and subsequently to its return, and which attracted the especial attention of the army surgeons to this formidable disease, and the various derangements of the organ of vision in which it resulted; and it is to the surgeons of the English army that we are indebted for many improvements in our knowledge of the pathology and mode of treatment of the diseases under notice, and for some very interesting tracts on these subjects.

Most of these treatises, however, are limited to the consideration of a single disease, or a new operation or method of cure. Mr. Stratford has undertaken a more extensive work, and has presented us with "a Manual of the Anatomy, Physiology, and Diseases of the Eye and its Appendages." He commences with an anatomical description of the orbits, the appendages, and of the eye-ball; he next offers a few general considerations on the diseases of the eye and its appendages; and then treats in succession of the diseases of the conjunctiva, lachrymal gland, lachrymal passages, eyelids, orbits, of the sclerotic coat, cornea, iris, choroid coat, and ciliary processes, of the retina, membrane of the aqueous humour, the lens and its capsule; and the general diseases of the eye-ball, as glaucoma, fungus hæmatodes, &c. and concludes with an account of the effects of injuries of the eye and its appendages, and their treatment. Most of the subjects interesting to the ophthalmologist, are, it will be perceived, brought under notice.

If the work of Mr. Stratford will not supply the want, so long felt, of a complete system of ophthalmic medicine and surgery, it at least has the merit of being the best compend or manual that has hitherto been presented to the profession. His descriptions of diseases are concise and accurate, his pathology almost always correct, the treatment he recommends such as would naturally be suggested by a correct pathology, and is that which has been sanctioned by the experience of the best practitioners. We congratulate the student on the valuable acquisition that this book will be to him.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Anomalies in the Anatomy of the Kidneys.*—Dr. Bouillaud has met in one subject with only one kidney, which was situated across the spine, and was furnished with two ureters; it was considerably larger than the ordinary size.

Dr. B. has found the kidneys lobulated in four adult bodies. The external configuration of the kidneys resembled in some degree the hemispheres of the cerebrum. The lobes and sinuosities representing the circumvolutions and infractions of the brain. In one instance two ureters proceeded from the right kidney, and at the termination of about two inches they united into one canal. The left kidney was naturally formed.—*Journal Complementaire, July*, 1828.

2. *Rare and Remarkable Anomaly of the Vascular System.*—This case was met with by Professor Francke, and is related in the *Zeitschr. fur natur-und Heilk. for* 1827. The aorta was in its natural position, but the vena cava ascendens did not lie on the *right* side of the former vessel; it, on the contrary, ascended over the fourth, third, and second lumbar vertebræ, on the *left* side of the aorta; opposite to the first lumbar vertebra, the vein crossed in front of the artery, immediately below the superior mesenteric. Having arrived on the right side of the aorta, the vein continued to ascend, as usual, towards the liver and diaphragm. At the point where the vena cava is formed by the union of the two iliacs, and where the aorta bifurcates, the iliac veins were for the most part covered by the iliac arteries, but the former were rather more to the *left* than the latter, corresponding thus with the anomaly of the principal trunks. The aorta was in this manner quite embraced by the vena cava opposite to the lumbar portion of the vertebral column. The only similar case on record, we believe, is that noticed by Morgagni, *De Sed. et Caus. Morb. Lib. IV.*

3. *Insertion of the Umbilical Vein in the right Auricle of the Heart.* By Professor Meade.—The child who formed the subject of this case died immediately after its birth without any known cause. It did not show any anomalous appearance externally, but the vessels having been injected, a remarkable anomaly was discovered in the disposition of the umbilical vessels. The umbilical vein, instead of dividing into two branches to traverse the liver, continued in the form of one trunk, and ascended over the convex surface of the right lobe of that organ to the right auricle of the heart, where it terminated before and above the mouth of the inferior cava. The heart appeared to be pulled down by this insertion of the umbilical vein; its base was much inclined towards the right and towards the sternum; its position was, consequently, more transverse than ordinary. A single umbilical artery arose from the abdominal aorta, at its bifurcation, between the primitive iliacs; it passed on the left side of the urinary bladder, and continued its course to the um-

bilicus. No other anomaly was discovered in the abdominal, or the thoracic viscera.—*Bulletin des Sc. Méd. May*, 1828, *from the Nova Acta Phys. Med. Acad. C. L. C. Nat. Curios. Tom. III.* 1827.

4. *Metallic Mercury found in the Human Body.*—In Vol. II. p. 227, we mentioned that metallic mercury had been found in the human body by some French chemists. It appears from *Schweigger's Jahrbücher der Physik und Chemie, Tome xx.* that Professor HUNNELAND, of Greifswald, has found it in the semi-liquid fat of a wen.

5. *Instance in which the Kidney was situated in the Pelvis.* By Professor HEUSINGER.—The woman in whom this malformation was found, was aged twenty-three years and died of apoplexy. The right kidney was in its natural situation as also the renal capsule of the left side. The left kidney, on the contrary, was situated in the pelvis, in front of the left half of the sacrum, behind the uterus, to the left of the rectum, which was pushed towards the right, and was in part before the sacro-iliac symphysis of the right side. The shape of the left kidney was almost circular; its greatest diameter three inches six lines, its smallest three inches.

6. *Anatomical Description of the Anastomosis between the Glosso-pharyngian, the Trifacial and Trisplanchnique Nerves.*—Dr. JACOBSON has inserted in the *Répert. d'Anat. et de Phys. Vol. II.* a description of this anastomosis; the following are the conclusions of this learned Danish anatomist. 1st. There exists an anastomosis between the glosso-pharyngian, the superior maxillary and the grand sympathetic nerves; 2d, this anastomosis is constant in man and in a great number of mammiferous animals; 3d, this anastomosis in its structure and its course exhibits much analogy to the corda tympani.—*Bull. des Sci. Méd. Aug.* 1828.

PHYSIOLOGY.

7. *State of the Heart during Pregnancy.*—It is asserted by M. LARCHER, in a paper in the *Archives Générales*, that in pregnant women the left ventricle becomes thicker, more firm, redder, and more active than natural. This hypertrophy, he says, whether the cause or the effect of plethora, always imparts an energy to the circulation, which accounts for the vascular symptoms of pregnancy.

8. *Cyst near the Parotid Gland, containing a Fœtus.*—Professor RENNER, of Jena, relates in the *Zeitschr. fur die Organ. Physick. for Sept.* 1827, his having found in a cow which died of hectic fever, a cyst two inches in length at its greatest diameter, under the skin, behind the parotid gland, which contained the bones of a fœtus.—*Bull. des Sc. Méd. June*, 1828.

9. *Instance of Gradual Abolition of all the Senses in succession, the Intellectual Faculties remaining Entire.* By M. DE FERMON.—M. C. J. a Corsican, allied to the family of Napoleon, of a nervous temperament, rich, a wit, a lover of the fine arts, and a devotee of pleasure, which had been indulged in to excess, was attacked with difficulty of vision, which soon terminated in complete amaurosis. Having suffered in his youth from syphilis, he was put on a course of mercury, without any benefit. Afterwards he tried numerous remedies under the best physicians in France, but to no purpose. Notwithstanding this blindness, he continued to fulfil his functions as financier, and acquired such a tact that he could distinguish engravings on copper from wood-cuts, lithographs, &c. by the fingers alone. In short, he enjoyed society nearly as much as ever, and hardly felt the loss of

sight. But in a few years he began to grow deaf of one ear—then of the other, and in a short time, he had to add the total loss of hearing to that of sight! By means of large moveable types or letters, which his family put together, he was soon able to read with his fingers whatever was wished to be communicated, and by this contrivance he still held free intercourse with the external world. All his intellectual faculties remained unimpaired, and his memory was extremely tenacious. But new misfortunes were in store. Muscular motion and sensibility began to fail, and, in a short time, they were completely extinct! He was now, as it were, exiled from the earth, in the midst of his family and friends! He could speak; but no answer, no sign, no impression could he receive through any channel of sense! In this deplorable condition, it was accidentally discovered that a small portion of one of his cheeks retained its sensibility, and the active imagination of the sufferer soon took advantage of the discovery. He caused one of his sons to trace letters on his cheeks as he dictated them, and by constant repetition he was soon able to recognise these letters as traced on the sensible part. He made such progress, that, in a few days, his son wrote on his father's cheek the speech of the king of France, on his return in 1815, the whole of which was completely understood! With this sole solace of a dreary death in life, he dragged out some time in a state of the greatest misery that can well be imagined—his intellectual faculties not appearing to suffer the slightest degree of decay. At length the unfortunate patient became enfeebled, the fæcal matters escaped involuntarily, and after many years of suffering he succumbed. No autopsic examination was made.—*Bulletin des Sciences Médicales, Jan.* 1828.

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10. *On the Coagulation of the Blood.*—Dr. John Davy relates a number of interesting experiments on this subject in the *Edinburgh Medical and Surgical Journal*, for October, 1828. The following are his conclusions. 1*st*, The coagulation of the blood takes place independent of motion, and it is very little affected by motion, whether violent or moderate; 2*dly*, That it is not caused by the action of atmospheric air, or much affected by any kind of air that is not absorbable in water; 3*dly*, That it is not retarded by the introduction and absorption of carbonic acid gas; and *lastly*, That the action of reagents on the blood, or the fibrin of the blood, as regards coagulation, is exceedingly various, not to be anticipated *a priori*, and inexplicable on any one hypothesis hitherto advanced, the effect of each of them requiring special consideration, and further and minute experimental enquiry for its elucidation.

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11. *Perspiration after Death.*—At a meeting of the Royal Academy of Medicine in August last, the secretary read a case which came under the observation of M. Speranza, clinical professor at Parma. The subject was a woman of Mantua, who died on the fourth day after an attack of encephalitis. Examined twelve hours after death, the body was still warm and covered with a profuse perspiration, which, as often as it was wiped off, returned again. This phenomenon continued during twenty-four hours. M. Fontaneille, by whom the case was addressed to the academy, suggests in explanation of this occurrence, that the cutaneous capillary vessels still retained a remnant of the vitality proper to them after the cessation of general vitality.—*Archives Générales, Sept.* 1828.

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12. *On the Condition of the Blood and Blood-vessels in Inflammation.*—Dr. Kaltenbrenner has recently published some interesting experiments which he instituted on these subjects. The successive changes which, by means of the microscope, he observed to take place in an organ at the moment of its being deprived of life, were the following:—On the approach of death, the column of blood in the arteries gradually diminishes in size, till, at last, the vessels contain only half of the usual quantity; the stream is uninterrupted, rapid, and without any visible pulsations, which, however, may be observed after some time, corresponding with those of the heart, and gradually becoming more and

more distinct; at last, however, they become unequal and indistinct, and, at the same time, the column of blood decreases, till it disappears entirely; the arteries are now quite empty, and organic life is extinct. Whilst the arterial stream is uninterrupted, no disturbance is observed in the veins; but as soon as the arterial circulation becomes unequal and irregular, the blood is accumulated in the veins; and from the moment that no more blood is carried into them, that which they contain stagnates entirely, retaining, however, for some time, an undulatory motion, passing into the branches, and then returning again; these undulations gradually diminish, and become reduced to smaller limits; the globules of the blood are conglomerated, all spontaneous motion ceases, and the mechanical laws determine its further direction. This undulation of the venous blood is observed, not only in dying animals, but also in parts divided from the living body, and in those which, by a very tight ligature, have been separated from the system. In these cases, the arteries are emptied as soon as they receive no more blood; the fluid of the capillary vessels, from this moment, is thrown into undulations, which press the blood towards the veins, and, lastly, terminates in complete stagnation. This fact is a decisive proof, that the motion of the blood in the smaller arteries, and especially in the capillary system and veins, is, in some degree, independent of the action of the heart.

It is a general opinion, that after death the blood is equally distributed to all the organs of the body, unless any of them had been the seat of inflammation; this is not the case: in the extremities, the serous membranes, the lungs, &c. the blood retires from the capillary system into the larger veins; in other organs, as, for instance, in the spleen and liver, the capillary vessels do not completely empty themselves. It is very interesting to observe, that in fishes, the blood of the smaller vessels is not emptied into the veins, but that, from the moment when the circulation is arrested, it is infiltrated into the cellular tissue, where it is found in reddish masses; a fact, which can only be accounted for, by assuming that these small vessels are canals without proper parietes. In the liver of the frog, the same appears to take place, but not in that of the rabbit, which, after death, is found most beautifully injected.

In the spleen, the small vessels undergo a very singular change at the moment of death. During life, the distribution of the vessels in this organ is very similar to that in the substance of the liver; after death, the same phenomenon takes place as in the capillary system of fishes; the smaller arteries and veins, and the capillary vessels, emit their blood into the cellular tissue, where it is found in red masses; the larger arteries and veins only retain their blood, of which, in the smaller vessels, no trace can be discovered; this accounts for the general opinion that, in the spleen, the arterial blood is poured into cells, from which it is taken up by the veins; at the same time, it explains why all attempts to inject the arteries of the spleen from the veins have failed. Whoever examines the edges of the spleen of the mouse under a microscope, will be convinced that after death the blood of the capillary system is infiltrated into the parenchymatous tissue, but he will never, during life, observe its emission into cells.

On examining, after death, the mucous membrane of the small intestines, it appears, even to the naked eye, that a small portion of the blood is retained in the capillary vessels, the rest being carried into the larger veins.

The changes which the circulation of inflamed parts undergoes after death, is very different from those observable in healthy organs. The blood is conveyed from all parts with accelerated motion, towards the centre of inflammation; the arterial is not changed into venous blood, and its coagulatory power is much increased. If in this state death takes place, the column of blood in the surrounding vessels diminishes in size, and the blood accumulates in the inflamed part, so that at last the peripheric vessels are perfectly emptied; at this moment the circulation ceases, but for a considerable time afterwards undulations are visible, by which the blood is gradually carried towards the centre of inflammation, and which insensibly terminate in stagnation. This motion, subsequent to the death of the animal, is also observed in the newly-formed

vessels. In a lesser degree of inflammation, the blood is only accelerated in its motion, and does not approach to a complete stasis; the centripetal undulations are also visible, but ultimately the blood is carried into the veins. In such cases the inflamed parts exhibit hardly any redness after death.

It appears, that in some organs, inflammation is more disposed to form the inflammatory centres described above, than in others; in the latter division, to which the serous membranes seem especially to belong, exudation is most frequently observed. If cold water is injected into the peritoneal cavity, inflammation is soon excited, and quickly followed by exudation; the afflux of blood is so violent, as to make the membrane appear like a net-work of injected vessels; from the moment that life ceases, the blood gradually leaves them, and is completely poured into the veins, so that, after death, but very slight traces of the preceding inflammation can be perceived.

The abdomen of an animal being opened, or its intestines and mesentery being drawn out, the contact of atmospheric air soon causes inflammation, which increases very rapidly in the mesentery, but slowly in the intestines. When, however, it has arrived at a certain pitch in the latter, it suddenly diminishes in the former, and gradually subsides, till at last its vessels are emptied, and the inflammation is confined to the intestines alone. The same phenomenon takes place if the mesentery is first irritated, and the intestine is afterwards exposed to any exciting cause. It seems, then, that inflammation is much more readily excited in the serous membranes, than in the organs which they envelope, but that it subsides very rapidly, and in the same proportion as it increases in the intestines. The tissue of the lungs appears also to be little disposed to form inflammatory centres, while in the liver the contrary obtains. The circulation of the latter organ is, even in the state of health, very slow and favourable to considerable accumulation of blood; in inflammation it is first accelerated, but gradually retarded, and lastly, a complete stagnation takes place. The same is observed in inflammation of the spleen.

Violent inflammation of the mucous intestinal membrane, often leaves no traces whatever; the blood with which, during life, the capillary vessels were gorged, is, after death, so completely conveyed into the veins, as to render this membrane almost as pale as in its healthy state; this is even most striking in the most acute inflammation, so that, in this respect, the mucous are apparently very similar to the serous membranes.

When the capillary vessels are wounded, scarcely any extravasation appears to take place, only a few globules escape, and the circulation through the wounded vessels is not at all disturbed, but continues as before. If very small arteries are divided, the hæmorrhage is also very trifling; but the blood ceases to circulate through the wounded vessels, and passes entirely into the arterial branch next above the division. When a larger artery is divided, a considerable hæmorrhage ensues from the two ends, and the blood of the neighbouring arteries is seen moving towards the wound as towards a centre; after some time, an undulatory motion is observed in the ends of the arteries, so that, at one moment, the blood moves towards the point of division, and, in the next, returns into the vessel; these undulations gradually decrease, till the movement of the blood, towards the divided extremities, ceases entirely, the blood being carried through the next arterial branches.

PATHOLOGY.

13. *Case of Rupture of the Right Auricle of the Heart.* By R. Rutherford, Esq. Surgeon.—A woman aged twenty-four years, who had been four years before subject to *deep mental inquietude*, since when she has suffered frequently from palpitation of the heart, her lips becoming at such times purple, and her whole countenance assuming a cadaverous appearance, was attacked, Novem-

ber 10th, 1825, with a fit, which was described as resembling epilepsy; she was incapable at the time of articulation, and felt extremely cold. When seen by Mr. R. she complained of extreme throbbing in the head, and great confusion when she sat up in bed, and vomited on taking any thing into the stomach; pulse hard, frequent, but regular. She was depleted and purged, &c. and was somewhat relieved. On the 14th of November, Mr. R. took from her in a full stream twelve ounces of blood, and her pulse still continuing hard, he let the blood flow till she lost eight or ten ounces more. "The pulse still continued hard and frequent, but she said she was relieved. She did not show the slightest disposition to faint after the bleeding, but on lying down she suddenly exclaimed, 'Oh dear, my heart! it will certainly burst: my feet feel so strange, they are quite dead: pray, put your hand on my heart, sir, it will come out.' I went immediately round to her bed-side, when she expired in my arms in a state similar to fainting.

"On examining the body, the viscera in general were found to be in a healthy state: there were slight adhesions of the lungs to the pleura; but the pericardium was much thickened, as if from previous inflammatory action, and distended. On opening it, a mass of dark coagulated blood presented itself, the heart being completely buried beneath its surface; on the inspection of which, we discovered that the right auricle was ruptured near the superior cava: its parietes were particularly thin and flaccid."—*Journal of Morbid Anatomy, &c. Vol. I. Part I.*

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14. *Case of Rupture of the Left Ventricle of the Heart.* By JOHN ADAMS, Esq. Surgeon.—A stout man, aged forty-six years, temperate habits, for many years subject to great mental anxiety, in consequence of the misconduct of a near relative, was attacked, November 5th, whilst walking home, with a sense of weight and tightness on the left side of the chest. *Nov. 8th.* After passing a night of great mental distress, aggravated by having to perform a very painful task, he had a return of the sensations of weight, &c. which had hitherto only been felt during exertion; his breathing was interrupted under exertion; pulse 85, full, but easily compressed. He was purged, and in the evening took a dose of laudanum. Nov. 9, "had passed a night of great *agony*, both of body and *mind*: the pain in the region of the heart very severe, and extending along each arm, particularly the left; his pulse 130, full, and firm; tongue white and dry; countenance exceedingly anxious, and pale. Venæ sectio ad ℥xiv. He became faint during the bleeding, and vomited: somewhat relieved for a few moments, but as soon as the faintness went off, the pain, tightness, &c. returned as severe as before, the bowels not having acted since last evening, ordered hydr. subm. gr. vi. c. haust. rhei. His symptoms continued with unabated violence until half past one, when having raised himself on his left arm, to turn to his right side, he fell back in bed, and expired after a short but violent struggle.

"*Morbid Appearances.*—On opening the thorax, the pericardium appeared to be distended, and emitted, when divided, a quantity of serous fluid; but the heart was entirely concealed by an envelope of coagulated blood, which presented so imposing an appearance, that I stood for some minutes surveying it before I could proceed with the examination. The coagula were separated into three distinct layers. The removal of the first, which had a foliated appearance, exposed only the apex of the heart, the second a larger surface of that organ, but the third uncovered its lesion, which extended into the left ventricle, between the carneæ columnæ, close to the septum ventriculorum, and nearer to the apex than the base of the heart."—*Ibid.*

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15. *Notes of Two Cases of Rupture of the Left Ventricle of the Heart.* By JOHN CROSS, Esq. Surgeon.—"1. A maiden lady, aged seventy-three, jolly, and having rosy cheeks, was in a violent passion one Sunday, and for a week afterwards complained of *pain* in the region of the heart, and *a shortness of breathing*, but went about till the expiration of that time, when she sent for me in

the evening. She was suffering so little from *these symptoms* as to debate about going out to dinner the next day. She passed a restless night, but was in the sitting room in the morning, and kept about till night, when she was unable to lie down in bed, and sat up with the hand applied to the region of the heart, on account of pain there. She expired before morning. Four ounces of coagulated blood were found in the pericardium. The heart is not enlarged, nor does it present any morbid appearances; the great vessels proceeding from it are equally healthy and well-shaped. The rupture of the left ventricle is in the anterior part of the heart, very near the septum of the ventricles, and one inch and a half from the apex. There is an irregular rent in the external serous covering of the heart, and in a few of the superficial muscular fibres, of half an inch in length, but deeper than this; the slit is not more than *one-eighth of an inch*, this being what we very properly consider the dimensions of the opening into the ventricle.

"II. The subject was an active old gentleman, with very florid cheeks, above seventy years of age, and whom I had complimented on his health and cheerfulness forty-eight hours before his death. He was exerting himself at a public meeting; whilst standing, he entered warmly into a debate, tottered, fell, and was found to be dead. Between seven and eight ounces of blood were found in the pericardium. The heart was very considerably enlarged, owing, no doubt, to the morbid state of some of the large vessels proceeding from the arch of the aorta; for the arteria innominata, just at its origin, was so diminished in its tube, by atheromatous deposition between its coats, as to leave a passage not more than one-eighth of an inch in diameter; and the left subclavian artery was similarly diseased and diminished one-half in its calibre. The rupture of the left ventricle is situated two inches from the apex, in the left wall of the ventricle, opposite to the septum of the ventricles; the whole thickness of the ventricle, (which is at this spot about one-third of an inch,) is opened by a slit, half an inch in length; but the rent in the outer membrane of the heart, and in some of the superficial muscular fibres, is above an inch long. These two cases contrast well, in the difference of time between the immediate cause of the injury and its fatal result, the bulk of the organ, and the state of the large vessels."—*Ibid.*

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16. *Case of Rupture of the Left Ventricle of the Heart.* By G. H. Watson, Esq.—A man, æt. 61, full habit, short stature, was prevented from sleeping for two or three nights, owing to a violent pain in his chest; pule 75–80, regular. These symptoms abated on the fifth or sixth day, but they then suddenly returned and terminated the existence of the patient. On examination, a small, unequal, and apparently torn orifice appeared in the anterior portion of the left ventricle, through which the blood had passed into the pericardium. "The inner surface of the ventricle was deeply red for one or two lines from the orifice, forming an inflamed zone round it; one or two of the carneæ columnæ were separated from their attachments to the heart towards the apex, and their separated points bore the appearance of ulceration having been the cause of this lesion. The internal surface of the aorta, about an inch and a half above the semilunar valves, was very red; the heart was also very fat." Nothing else remarkable was observed.—*Ibid.*

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17. *Case of Angina Pectoris, and Ossified Cerebral Arteries.* By J. Lewis, Esq. Surgeon.—A robust, muscular, and healthy man, aged sixty-seven, died suddenly, October 30th, 1826. Twice in the morning of that day, and once in the evening, just before he expired, he complained of a severe pain shooting across the bottom of his thorax, and darting to the middle of the upper right arm. *Dissection.*—Head. Dura mater thicker, and more dense than natural; brain unusually soft; right ventricle containing from "ten to fourteen drachms of perfectly clear serum, and the left from six to eight drachms of the like colourless fluid. The arteries at the base of the skull, particularly the vertebral and basi-

lary, were ossified in patches. The cerebellum appeared healthy, with the exception of being softened. Upon removing the cerebrum and cerebellum, there was found at the basis of the cranium between one and two ounces of bloody serum. Upon making sections of the cerebrum and cerebellum in various directions, there was no appearance of rupture or extravasation. Thorax. The left lung was distended with air, and adhered to the pleura universally. The right lung was healthy, and not adherent. The heart was very large, and fat, filling the pericardium; the coronary arteries were much ossified, but there was no other diseased appearance. Abdomen. The spleen adhered to the peritoneum, and was so tender that it broke down upon being detached. Some portions of the small intestines also adhered to the peritoneum. The abdomen and chest were covered with fat to the depth of two or three inches."

For a short time previous to his death he had been very forgetful, and his ideas were at times rather confused, and occasionally he would talk incoherently.—*Ibid.*

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18. *Case of Chronic Inflammation and Partial Ossification of the Coronary and Vertebral Arteries, producing Angina Pectoris.* By H. J. Gore, Esq. Surgeon.—A man, æt. 57, middle size, muscular, had for some years past been subject to attacks of extreme difficulty of breathing, pain in the chest, and violent cough; which symptoms came on suddenly whilst he was engaged in any exercise, even walking at a moderate pace, ascending stairs, or performing any other motion that accelerated respiration. The horizontal posture could not be endured, bringing on dyspnœa and coughing; he always reclined with his shoulders raised. Whilst conversing, he fell, and instantly expired without the slightest struggle.

Dissection.—"Brain. The ventricles contained four or five ounces of fluid. The vertebral arteries were unequally enlarged, and partially ossified. In other respects, the brain and its membranes were sound. The abdominal viscera were healthy. Thoracic viscera. The lungs were perfectly healthy, but very much gorged with blood, even the upper surfaces appearing nearly black. There was considerable, but not recent adhesion of the lungs to the pleura costalis. The pericardium was healthy, but contained about two ounces of fluid. The coronary arteries were inflamed, and partially ossified."—*Ibid.*

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19. *Case of Rupture of an Aneurism of the left Vertebral Artery.* By H. J. Gore.—The subject of this was a tall, muscular man, æt. 24, accustomed to drink spirits. October 20th, 1826, he was excessively drowsy, for which he had leeches applied to the temples, and took an aperient. This relieved him, and the next day he said he was quite well. In the evening, directly after going to bed, he suddenly became insensible, respiration laborious, and he immediately expired.

Examination, sixteen hours after Death.—"The membranes of the brain were much charged with venous blood. The substance of the brain was particularly soft, and had a peculiar yellowish-brown appearance. The ventricles contained about six ounces of water and a small quantity of coagulated blood, (about two drachms in each.) The plexus choroides was nearly white. At the base of the brain, there were about four ounces of coagulated blood, which had escaped from a small aneurism of the left vertebral artery, just before its junction with the right to form the basilary. Both vertebral arteries were in a diseased state, their tunics being much thickened in parts for about three-quarters of an inch in length, and several rings of a cartilaginous substance being deposited between them; but the basilary and carotids were healthy."—*Ibid.*

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20. *Excessive Dilatation of the Aorta, and very Enlarged state of the Heart.* By D. Price, Esq. Surgeon.—Case I. This patient, during the four years that he was under the care of Mr. P. ate well, slept well, had a tranquil pulse, cool skin, clean tongue, and his evacuations were healthy and natural in appearance, but he was always complaining of illness. He was always imagining that he was going to fall down, when he either walked, stood still, or rode in a carriage; but *on horseback the sensation never annoyed him.* Bleeding, purging, &c. were em-

ployed, but he counteracted the effects of all remedies by indulging his appetite, which was voracious. About eighteen months before his death, it became apparent that there was an unnatural condition of his heart or aorta. "From this period, the inconveniences consequent upon such an affection constantly increased, and became ultimately truly distressing. Every time the heart contracted, it struck the ribs with a force that made it audible at some distance, and the blood, as you are aware, could be distinctly heard whizzing through the artery, at the distance at which the practitioner usually places himself from the patient. On examination after death, the heart was found of a magnitude exceeding all belief. Its parietes resembled in *thickness* the heart of an ox more than that of a human being. The coronary vessels were very large, particularly the veins, which were gorged with blood. The ascending aorta was so much enlarged that the valves could not at all approximate to each other, and their function must consequently have been for some time very imperfect. There was, as might be expected, a larger quantity of fluid in the pericardium than usual, and also some effusion into the cavity of the pleura: all the other organs were in a healthy condition."

The patient "though short in stature, had a very capacious chest, and had been much noted as a wrestler, and also for extraordinary speed in running."

Case II.—This patient had suffered from affection of the heart, upwards of ten years. Becoming violently agitated from fright, vomiting came on, which continued until his death, which took place in a few minutes. On dissection, the heart "appeared *pale* and *flabby*, and enormously enlarged. It measured from the base to the apex, eight inches and a half, and it was of a corresponding breadth. The semilunar valves had been, no doubt, in an useless condition for years, (verifying Sir Astley Cooper's opinion,) the ascending aorta was covered with large flakes of ossific matter, which protected and completely united it to the adjoining ribs. The coats of the artery had not, as I imagined, been converted into an aneurismal pouch; on the contrary, I found the dilatation of the vessel uniform throughout its extent. There were many patches of bone also on the descending aorta, and its calibre was greatly increased."—*Ibid.*

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21. *On the Diseases of the Kidneys and Ureters.* By J. Bouillaud, M. D.—Dr. B. has frequently met with *hypertrophy of the kidneys*, it generally occurs only in one of these organs. It is recognised, according to Dr. B. by the following appearances. The kidney is a quarter, or a third, or perhaps even one-half, larger than the natural size. Its substance is firmer, more compact, and redder. It is probable that in such cases the renal artery is enlarged, although this fact has not been determined. Hypertrophy of the kidney occurs under the influence of various causes, which determine to it an unusual quantity of blood. The most likely circumstance to produce this kind of plethora in one kidney, is the existence of some obstruction to the passage of the blood towards the other. It happens, consequently, that hypertrophy of one kidney is frequently detected when the other is in a state of atrophy. Hypertrophy of the heart and of the external muscles, takes place equally under the same conditions which preside over the increased size of the kidney.

Atrophy, or diminished nutrition of the kidneys.—This disease M. B. has frequently seen. Its characters are diametrically opposite to those of hypertrophy of the organ. The size of the kidneys is less than natural; their substance is paler; they contain less blood, and appear shrunk. Whatever cause obstructs the current of blood to the kidneys, may produce an atrophy of them. In every such instance, M. B. has been able to demonstrate a greater or less obstruction to the free circulation of the blood. The pressure of an enlarged spleen has sometimes produced atrophy of the left kidney. The right kidney has been similarly affected by the continued, yet gradual, pressure of an enlarged liver. In other organs, as the heart, the lungs, the breast, the testicle, pressure frequently causes the same diminution of size.

Infiltration of urine, and cysts of the kidneys.—M. B. observes that no patho-

logist has hitherto described this affection; it is not, however, very rare, but it may easily escape the observation of a careless practitioner; the following are the characters of it: on the surface of the kidneys may be seen several round vesicles, which raise the covering membrane of these organs. These vesicles appear to be small cysts in the substance of the kidney, and are probably formed by a certain quantity of urine, which has distended the uriniferous tubes, in consequence of some obstruction to the passage of the fluid. M. B. has seen some of these cysts as large as a cherry. Sometimes, instead of numerous vesicles, he has detached one large sac, which he presumed to have been formed from the union of several smaller ones, of which the parietes had ruptured. He has found the whole of the kidney transformed into one large sac, containing either a transparent serous or turbid fluid.

Inflammation of the kidneys, and of the disorganizations which follow inflammation.—In consequence of their peculiar structure, the kidneys do not easily become the seat of those disorganizations which result from inflammation. Nephritis is marked by the following appearances: redness, tumefaction, presence of pus, softening of the structure of the organ, abscesses, ulceration of the external surface, conversion of the parenchymatous substance into a tuberculous or encephaloid matter, which is, in a great measure, the product of the diseased secretion of the affected kidney. Cysts, either on the surface, or in the substance of the kidney, may result from inflammation. In two or three cases, M. B. has found the kidney converted into a fatty yellowish substance. The symptoms of the various ulcerations which the kidneys occasionally undergo, are very obscure; this circumstance will not be considered so extraordinary when we consider, first, that the deep-seated situation of the kidney embarrasses our examinations; secondly, that derangement of the function of the kidneys produces similar symptoms to those which result from various affections of the bladder and ureters; thirdly, that pain is by no means a constant attendant upon renal disease. If we are to rely upon the statement of most pathologists, acute pain is the almost inseparable attendant upon inflammation of the kidneys; it is not denied that such is frequently the case, but M. B. affirms that he has observed the most decided marks of renal inflammation in the bodies of patients, who had never complained of pain in the region of the kidneys. This absence of pain may be more easily conceived, when we reflect that the kidneys in a natural state are but slightly sensible. Violent pain is not seldom complained of in the region of the kidneys, when no disease of them is to be detected. The presence of a certain quantity of blood or pus in the urine, when there exists no disease of the bladder, is a symptom of some affection of the kidney; when to this symptom is united a smart attack of fever, the existence of nephritis may be strongly presumed. At the commencement of the disease, if both kidneys are affected, an almost total suppression of urine takes place. Chronic nephritis, like most other internal inflammations of a chronic character, produces a slow fever, which destroys the patient by throwing him into that state termed renal consumption. When the affected kidney continues the performance of its functions, the urine is much altered in its appearance, but sometimes it ceases to secrete; the urine being formed only by the healthy kidney, presents no unusual appearance, and the diagnosis of the disease is then extremely difficult. If both kidneys are simultaneously disorganised, so that a total cessation of the secretion of urine takes place, the same phenomena will occur as we observe in animals in which both ureters are tied, or both kidneys removed: violent fevers quickly arise, and a strong smell of urine is exhaled from the body. Is hypertrophy of the kidneys ever the cause of diabetes? M. B. is not furnished with sufficient facts to justify him in giving a positive answer to this question, but he has observed hypertrophy of the kidneys where the patient had been affected with diabetes. The ureters, like all other parts of the body, may suffer from inflammation, and undergo various alterations of structure in consequence; their canals may be much enlarged, diminished, or entirely obliterated; dilatation of the ureter may arise from any cause which obstructs the free passage of the urine into the blad-

der; contraction or obliteration may follow from any accidental compression from inflammation of the internal membrane which lines the cavity, or from the cessation of the passage of the urine through the canal, from the function of the kidney being no longer performed in consequence of disease. The symptoms of affections of the ureters are as obscure as those which attend diseases of the kidneys. If both canals are obliterated at the same time, death would speedily result; but if one ureter only is obstructed, the calibre of the other will be increased considerably, from the additional duty which it will have to perform under such circumstances. In support of these observations, M. Bouillaud details several interesting cases.—*Journal Complementaire, July*, 1828.

22. *On the Anatomical Characters of Tumours, designated by the names of lipoma and steatoma.* By A. N. Gendrin, M. D.—Dr. Gendrin has published in his Journal for May last, a very interesting memoir on this subject. The following are his conclusions; 1st. Lipoma's are evidently adipose tumours, as has been known since the time of Littre, who first described them. 2d. The structure of the adipose tissue of these tumours, differs a little from that in normal fatty accumulations, and in local polysarca. 3d. That lipoma's although implanted in the subcutaneous cellular tissue, have an independent life, since they receive vessels which have a special distribution, and which are isolated from the adjacent parts by a bed of cellular tissue, not adipose. 4th. That lipoma's being thus accidental adipose organs, have, in their own organization, all the principles of their development and of their growth, which is sometimes very rapid. 5th. Finally, that their complete extirpation is the only means of cure; that it can be performed without any other danger than that necessary from the incisions, and that it will always be followed by a radical cure, when the incisions are limited to the cellular bed which isolates these tumours.

Steatomatos present themselves in two distinct states: 1st. Imperfect. 2d. Degenerated or softened. The following are M. Gendrin's conclusions respecting them. 1st. That steatoma's differ essentially from lipoma's even in their external characters. 2d. That steatomatous tissue constitutes, like scirrhus and the encephaloide tissue, one of the forms of cancerous affections. It can be developed in all the organs; it is not in the form of wen, (loupe,) that it is most frequently seen. 3d. The steatomatous tissue has in its state of imperfection, in its state of softening, and in its state of ulceration, some characters which distinguish it from other carcinomatous tissues. 4th. It is still, however, a form of carcinoma, since it coincides with the other varieties, and even presents on the lips ulcerations which only affect the surface, and with which it is observed that individuals from whom steatomas have been extirpated, are liable to be attacked. Sometimes they are even simultaneously affected with carcinomas, under the form of scirrhus, encephaloide, or ulcerated steatoma, either in the same situation, or in different organs, as takes place in those from whom true scirrhus has been extirpated. 5th. Undeveloped steatoma is susceptible of cicatrizing, when it has been wounded with a cutting instrument, though it still continues to advance. 6th. That it is possible, and even proper, to remove a portion of a steatoma which is deeply situated, and which cannot be entirely extirpated, in order to relieve the patient from the effect of the sanies and carcinomatous ulceration which occurs at its surface; but the amputation must be performed in the undeveloped portion of the tumour.

Mr. G. offers the following general conclusions. 1st. That the distinction between lipoma and steatoma is founded on well marked semeiological and anatomical characters. 2d. That particular attention must be paid to the disposition and extent of the roots of noncysted wens, before extirpation is attempted. 3d. That these wens are accidental organs, which have a peculiar organization, entirely different from that of the other tissues; hence their development can never be explained in a satisfactory manner by the anormal or morbid development of the part or parts in which they are situated.

23. *Amnesia.*—In our original department we have inserted a very interesting case of amnesia by Dr. JACKSON; a case of the same disease has been recently met with by Dr. CHAILLY, and is related in the *Archives Générale*, for 1828. A man aged fifty-seven, whilst playing at *tric-trac* in a warm room, felt a sudden pain in his left temple, and at the same moment lost the power of expressing his thoughts. His memory betrayed him every time he attempted to use a substantive word; all words of that kind being replaced by *sonnez* and *six-cinq*, terms used in the game he had been playing. When Dr. C. saw him, his face was flushed, and he complained by gestures, of pain in the left temple, but was unable to say further than *J'ai là un sonnez*. Every thing was *sonnez* or *six-cinq* with him.

By the use of copious bleeding, general and local, and revulsives, he was entirely restored.

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24. *Case of Rupture of the Bladder, with separation of the Symphysis Pubis.*—"A stout, powerful man, ætat 35, was brought to the Worcester Infirmary, on the 5th of June, in the evening, having met with an accident, from a colt rearing up and falling upon him, about three hours before. His face was pallid and distressed; pulse very feeble. He complained of great pain about the left hip, particularly on motion. He had not passed any urine since the accident, or for three hours before. The person who brought him said that at the time of the accident he was intoxicated.

"A gum catheter was passed, and left in the bladder; about a pint of bloody urine was drawn off. He was ordered half an ounce of brandy every two hours.

"*June 6th.*—The pulse had got up. There was very extensive ecchymosis over the pubes and both groins; great tenderness and tension over the abdomen; no stool; vomiting very frequent.

"Applr. Hirud. xxx. abdom.—℞. Hyd. Submur. gr. x.—Pulv. Jalap. gr. x. fiat. bol. j. stat. sum.—Mist. Cath. quartis horis.—Adhib. Enema vespere.

"*7th.*—Vomiting continues of dark-coloured matter; pulse hardly perceptible; intellect clear; no stool; urine flows through the catheter. Tension and tenderness of the abdomen increased.

"*8th.*—Died this morning.

"*Sectio cadaveris.*—Integuments, and the whole of the abdomen below the umbilicus, much contused. The symphysis pubis was separated throughout its whole extent, so as to allow the thumb to be introduced between the bones. The bladder was ruptured transversely through the fundus and peritoneum covering it, to the extent of about four inches. A small quantity of urine, mixed with pus, was discovered in the pelvis. The intestines showed patches of inflammation here and there; and about three inches of the intestinum ilium was quite black, from ecchymosis between its coats."—*Lond. Med. and Phys. Journ. Sept.* 1828.

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25. *Disease of the Stomach, in which a well-defined Perforation takes place in the Tunics of that Organ, without any Softening of their Structure.* By Dr. C. H. EBERMAIER.—CASE I.—A woman, twenty-two years of age, of robust form, sought assistance for ophthalmia, under which she had laboured for several weeks. This affection was speedily subdued. Dr. E. was then informed that for many years the patient had suffered, almost constantly, from a train of symptoms which would hardly have been suspected from her general appearance of good health. The only mark of ill health was a slight paleness of the face. At the age of eighteen she began to menstruate, and, after having continued regular for about a year, the menses ceased, without any evident cause. For some months she continued in good health. At the end of this period, the digestive functions were much disturbed: her stomach ceased to bear her accustomed food; even the lightest aliment produced considerable pain in the stomach, acid eructations, and pains in the præcordia. These symptoms gradually increased both in duration and severity, and frequently appeared suddenly after the patient had

eaten. Vomitings soon took place some hours after food had been taken; half-digested aliment, mixed with mucus, was thrown from the stomach. The symptoms were not, however, relieved by the stomach being thus freed from its contents. At length the vomiting became almost constant, even after the mildest food, but it was not so violent. The symptoms were not yet, however, so severe as to confine the patient to bed, or to prevent her from following her ordinary occupations, excepting occasionally for a few hours. The nutrition of the body did not appear to be much diminished. So far from this being the case, there were intervals of some months in which the patient enjoyed comparative ease, and during which the spasms of the stomach were so much diminished as to lead to the hope of radically curing a disease which had been considered more distressing than dangerous.

"During the first two years, a great variety of means were had recourse to, without any avail. The whole tribe of antispasmodics and emmenagogues were exhausted in vain. The menstrual discharge did not appear. The imperfect digestion, the vomiting, the dull pain in the region of the præcordia, and occasional attacks of fever, continued without diminution. The patient consequently lost all confidence in the power of medicine, and resolved to trust to the efforts of nature alone; which she did during one year.

"It was presumed that the derangement of the stomach was produced by the total suppression of the menstrual discharge.

"Having again submitted herself to the direction of her physician, she was bled in the foot; a mixture of cream of tartar, sulphur, and chamomile infusion was taken; the feet were frequently immersed in warm water; and the lower part of the abdomen was rubbed with stimulating liniments.

"For several months Dr. Ebermaier entirely lost sight of her. He was informed that she was relieved for a short time by the above treatment, but that all the symptoms then returned with their original severity. She was still able to perform her domestic duties, but was incapable of working in the field, on account of the pain she experienced in bending her body. Pressure did not increase the pain she complained of in the epigastrium. She every day carried milk and vegetables the distance of a mile, without inconvenience. The menses had not appeared. Frequently and irregularly spontaneous and easy vomiting took place, two or three hours after she had taken food.

"At the end of about seven weeks she died suddenly, to the astonishment of Dr. E. who had still viewed her malady with little apprehension.

"Until the day of her death she continued lively in spirit, and capable of performing moderate labour. She rose early, took a little bread and coffee, and went into the garden to gather fruit, which she was to carry to market. She was in the act of stooping, when she suddenly screamed out, with great anxiety, "I am dying," and fell, apparently expiring in the greatest torture. Her hands and feet became cold; she complained of excessive pain in the belly; the thirst was inextinguishable, and her general restlessness and anxiety very distressing. There was now no disposition to vomit. She died in a short time.

"Upon examining the body, a considerable quantity of fluid was found in the abdomen. In the stomach was found a regularly-formed hole, on the anterior part, through which the contents had of course escaped into the abdomen, together with the large quantity of water the patient had taken during the last hours of her existence. Around this aperture there was not the slightest appearance of inflammation, redness, suppuration, ulceration, or erosion, nor any organic lesion whatever. The internal margin of the orifice was perfectly smooth, and the surrounding parts as free from any morbid appearance as the external. The hole, in fact, presented the same appearance as one which would be made in a piece of leather with a punch.

"Case II.—A man, fifty years of age, of a sanguine and bilious temperament, had complained every two or three months for the last five years, of pains in the belly. He died suddenly. On the right anterior surface of the stomach, a hole about the size of a two-franc piece, with callous edges, was found. In the

small intestines were observed several gangrenous spots. It was ascertained that, five years before the commencement of the symptoms under which he had laboured, he had received a severe blow from the pommel of a saddle on the epigastric region.

"Case III.—A girl, fifteen years old, had suffered for two or three years from slight pains in the belly. As her sufferings increased, medical assistance was sought for. She was found to have all the symptoms of enteritis; the face was pale and anxious; urine small in quantity, and of a deep colour; bowels constipated. The patient could assign no cause for the attack. Some years before she had had a similar attack, and since this time she had been occasionally subject to pains in the stomach.—Ten ounces of blood were taken. A clyster with castor-oil was administered, and emollient fomentations applied to the abdomen. She died in half an hour.

"*Appearances post mortem.*—The omentum adhered to the peritoneum, and at different points to the intestines. The abdomen contained a good deal of serous fluid, mixed with coagulable lymph. Throughout the small intestines there were traces of inflammation. The large intestines were also slightly inflamed in different parts, and much distended with air. The liver was smaller and paler than usual. The stomach was empty, and inflamed in different spots. Near the cardiac extremity a circular hole was found, of about nine lines in diameter: its edges were smooth and regular. At the opposite side of the stomach there was another perforation, of an oblong form, but not passing entirely through the external membrane. It appeared as if it had been once completely perforated, but that the orifice had subsequently closed.

"Case IV.—A robust man was attacked with a fixed pain in the epigastrium, accompanied by so distressing a throbbing that he was twice bled. After his meals, he vomited both solid and liquid food. For a long time he confined himself to a very light diet, but without any benefit. For a considerable period he suffered from attacks of fever, the pain and vomiting still continuing. He was frequently bled. He at length threw up a considerable quantity of blood, mingled with pieces of substance, some resembling liver, and others like fragments of the villous coat of the stomach. For about three weeks he went on with occasional variations in the severity of his symptoms, when, after a very severe accession of pain and vomiting, he fell a sacrifice to the disease.

"Upon examination, the abdominal viscera were found swimming in a mixture of oil and other liquids which the patient had taken. The stomach was free from adhesions to any of the surrounding parts, and without any traces of inflammation. On the right and anterior part of the small curvature a round hole was perceived, about six or seven lines in diameter. The interior of the stomach was perfectly free from any traces of inflammation. The internal orifice of the perforation was much larger than the external. The edges, examined with the finger, appeared hard, solid, and of a cartilaginous nature.

"Case V.—A man, twenty-eight years of age, had been frequently troubled, during his youth, with affections of his stomach, which had been attributed to worms. For many years he enjoyed an apparently good state of health. Without any previous indisposition, he was attacked suddenly one evening with violent pain in the belly, which almost bent him double. He was carried home on a board, and threw up from his stomach some bread and wine which he had taken in the morning. A similar mode of treatment was adopted to that in the above cases, but without effect. He died in a few hours.

"*Appearances on dissection.*—The contents of the stomach had escaped into the abdomen. At the small curvature of the stomach, about an inch from the pylorus, a hole was found, about a line and a half in diameter, and rounded as if it had been made with a punch. This hole was surrounded by a red circle. The interior of the stomach, and every other organ, were perfectly healthy.

"Case VI.—Desgranges attended a woman who for four years had been subject to pains in the stomach, from the severity of which she at length died. She never vomited. A similar aperture was found in the stomach to that above

described. In other respects the stomach was perfectly healthy. The intestines were slightly inflamed.

"Case VII.—A man had been subject for a considerable time to pains in the stomach. He had sometimes long intervals of ease. He gradually emaciated. Vomiting took place; and, after great and tedious suffering, he died. The pylorus was found in a scirrhous state. Two apertures were seen in the stomach, one an inch in diameter, the other much smaller. There was no appearance of inflammation in any part."*—*Lond. Med. and Phys. Journ. Oct.* 1828, *from the Journal Complementaire, July*, 1828.

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26. *Hemiplegia in a Child nine months old, produced by the Mother giving it the Breast immediately after being in a Violent Rage*—Dr. Berlyn observes in the *Neue Jahrbücher, Vol. II.* 1827, that he has met with a case of this kind. The little patient recovered in a few days.—*Bull. des Sc. Méd. June*, 1828.

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27. *Polypus of the Heart.*—M. Ridacci, of Florence, mentions a case where a well organized polypus was found after death in the heart. A young woman, affected with some disease of the heart, supposed to be an aneurismal dilatation of the left ventricle, after having been treated with digitalis and other means, died on the 18th of December, 1827. On examination of the body after death there was found, among other things, a body of a fleshy appearance, similar to that called sarcoma, in the left ventricle of the heart. This ventricle, very much enlarged, had its walls much reduced in thickness. From the interventricular partition arose one of the roots of the morbid production. Another root took its rise from the auriculo-ventricular valve, by two peduncles. These two united, and formed a round body, two inches and two lines in length, which terminated by a ragged point, the surface of which did not appear covered by any membranous layer. On the external surface of the polypus were seen three reddish fillets, which, arising from the carneæ columnæ, extended to the morbid production, and appeared to be lost in its substance. These, examined with a good lens, were found full of reddish fluid, and were recognised as sanguiferous vessels. In order to prove the fact the more satisfactorily, two of the fillets were injected with mercury. One of them burst at the distance of an inch from the introduction of the tube, but the other was completely filled, and exhibited its divisions and ramuscules, which became lost in the substance of the polypus. The polypus, attentively dissected, was discovered to be formed of four or five fibrous strata, superposed one upon the other, and intimately united. The author remarks that these observations do not permit a doubt that this polypus was properly organized, and that its formation took place before death.—*Antologia Firenze, Feb.* 1828.

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28. *Enormous Hypertrophy of the Heart, &c.*—Dr. Johnson saw the patient, (Dr. Cox,) about December, 1827, and examined his chest with attention. The action of the heart was observed to be excessive—"the organ beat over a large space—the arteries throbbed violently—the jugular veins pulsated—the "*bruit de scie*," was very distinctly heard—the respiratory sound was audible in all parts of the chest, which also sounded well on percussion. Dr. Cox appeared very much agitated and nervous; it was, therefore, hoped that part, at least, of the great action of the heart was attributable to nervous palpitation. The countenance was pallid, and inclined to be sallow—the breathing was disturbed by exertion, especially by ascending stairs or high ground. In other respects, there was no apparent disorder of any organ in the body. Each subsequent examination tended to increase the fear, that active enlargement of the heart was going on, and, in this opinion, Dr. Clark, and several other medical friends, concurred. It was rather remarkable, however, that two or three glasses of

* "For much additional information upon this very interesting, and as yet obscure subject, our readers may consult the Dictionnaire des Sciences Med. Tome XLVI. p. 314, art. Perforation, illustrated by plates."

wine invariably lessened the action of the heart, and ameliorated the patient's distressing feelings—especially the pain in the region of the heart, of which Dr. C. often complained. Local depletion, counter-irritation, digitalis, and diuretics, were long and vigorously employed, but not, we believe, with any decided effect. Dr. J. lost sight of the patient for seven or eight months, and did not see him till the 10th of August, ten days before the fatal termination of the disease. Dr. Cox called on Dr. Johnson, and stated that his complaint had recently taken an entire new turn. The distress in the region of the heart was greatly mitigated, and his principal sufferings were referred to the epigastrium, which was so exquisitely tender, and withal so prominent, that a physician that morning thought there was acute inflammation and enlargement of the liver. On examination of the chest, there did not appear to be any change in the physical signs of hypertrophy of the heart—on the contrary, they seemed all to have increased. But the tenderness and pain in the epigastrium, (where, by the way, there was a tremendous pulsation,) masked the other feelings, or engrossed Dr. Cox's entire attention. Leeches, blisters, two general bleedings, gave little or no relief. The breathing became so embarrassed that he was obliged to be propped up in bed, and he expressed himself as always on the brink of suffocation. In this dreadful state he lingered till Wednesday, the 20th of August, when death put a period to his sufferings.

The body was examined by Dr. Hodgkin, in presence of Mr. Morrah, Dr. Johnson, and two medical students. The surface was slightly tinged yellow, and the ankles were œdematous. In the chest there were better than three pints of reddish serum, but no marks of inflammation. The heart was so enormously enlarged, that neither Dr. Hodgkin, Mr. Morrah, nor Dr. Johnson, had ever seen one of such a size before. The cavities were dilated as well as the parietes thickened. There was nothing the matter with the mitral or tricuspid valves; but one of the semilunar valves of the aorta was dilated into a pouch that would receive the end of the thumb up to nearly the first joint. The inner coat of the aorta, opposite to this valve, was thickened and irregularly raised. There was no other morbid appearance in the arterial system. The lungs, especially on the left side, were condensed, but not like hepatization from inflammation. In the upper lobe of the right lung was found some small masses of calcareous deposit, and the remains of a tuberculous excavation, completely lined with a shining membrane, and communicating with one of the bronchia. The liver was rather smaller than usual, hard, and curiously mottled with yellow and red specks, so as to present an extremely diseased appearance. The spleen was very much indurated, and carnified. But the most remarkable phenomenon in the abdomen, was the state of the mucous membrane of the stomach and intestines. Besides a very minute injection of the vessels, the membrane was, in a very great extent of surface, completely *œdematous*. The rugæ in the intestines presented the appearance of bladders filled with a thick but pretty clear fluid, as in some blisters.

Dr. Hodgkin was of opinion that the state of the semilunar valve in the aorta, as above detailed, might be the cause of the hypertrophy, as not only keeping up irritation in the neighbourhood of the ventricle, but as checking the issue of blood from the left side of the heart. The writer of this notice cannot entirely coincide with Dr. H. on this point. The action of all tangible arteries was in proportion to that of the heart, and there did not appear to be the least check to the issue from the ventricle into the aorta.* The patient had had acute rheumatism, and this, combined perhaps with a faulty constitution from birth, may have determined the disease of the heart. The dissection was interesting in another point of view. It showed the natural cure of a tuberculous excava-

* The rush of blood, however, past this enlarged valve, at each stroke of the ventricle, was evidently the cause of the "*bruit de scie*," or "stroke of a saw," which was heard corresponding with the pulse and the ventricular contractions. It is difficult to conceive the cause of this enlargement of the valve, in a direction *contrary to the current* of the blood. The only way in which it can be accounted for, is a frequent attempt at *retrogradation* in the circulation through the aorta, as it is only then that the semilunar valves can be put on the stretch.

tion—in short, Dr. Cox must, at one time, have had tuberculous expectoration, or, in other words, phthisis. Considering that two, if not three, of his brothers died of phthisis, it is remarkable that a broken down tubercle should have terminated favourably in such a constitution. There were no other tubercles, however, in the lungs. The patient bore his dreadful sufferings during the last ten days of his life, with heroic firmness of mind, although he was conscious of the fatal nature of the malady!—*Med. Chir. Rev. Oct.* 1828.

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29. *On Tubercles.*—Dr. Boulland, in a very erudite and interesting paper on the accidental heteralogue tissues, in the *Journal des Progrès, Vol. IV.*, to which we have already called the attention of our readers,* establishes the following facts, respecting the mode of production of tubercles, and which we quote as confirmatory of the views of Dr. Alison; see p. 434.

1st, They are the result of a species of morbid secretion.

2d, This secretion, like all the normal secretions, occurs under the influence of an active sanguineous congestion.

3d, They can be developed as a result of local inflammation, or under the influence of a mechanical irritating cause, without predisposition, and that consequently, it cannot be admitted that they are developed without an appreciable cause, and, in consequence of a general affection.

4th, That there are some cases on the contrary, where it is impossible not to admit this predisposition, of some cause upon which we would make it depend; causes, which in the present state of the science, must be regarded as hypothetical, and which are the alteration of the fluids, alteration of the nervous system, hereditary constitutions, &c.

The actual state of our knowledge respecting tubercles, may be reduced according to Dr B., to the following positive facts.

1st, The tuberculous matter is a variety of pus, the principal character of which is its disposition to concrete. 2d, It is produced by a species of morbid secretion. 3d, It is at first deposited in a liquid state, and concretes from the circumference to the centre. 4th, It may occur in all the organs capable of secreting pus. 5th, It can assume, without being different itself, different forms, which appear to depend only on the conformation of the particular organs, in which it is situated; thus it may be infiltrated, in round, or irregular masses, encysted or free.

The hypothetical state of our knowledge on this subject, consists in the following questions, towards the solution of which, researches may be usefully directed. 1st, Is there a particular solid organic element, which exclusively produces tuberculous matter? 2d, Is there a particular alteration of the blood, or of the other fluids, in the state called the tuberculous diathesis? 3d, Upon what other cause can the modification of constitution, which predisposes to the formation of tuberculous matter depend?

MATERIA MEDICA.

30. *On the Therapeutic Properties of Morphine.* By V. Bally.—A little bitter taste in the mouth, is, according to M. Bally, the only effect produced on the mouth and œsophagus by morphine. "It occasions no thirst, redness of the tongue or gums, or swelling of the tonsils. When given in moderate doses, morphine produces no loss of appetite or any other disorder of the digestive functions; wherein it differs greatly in its effects from belladonna. In most constitutions, however, it produces vomiting, if administered in full doses. This property it appears to possess in a very high degree, which is a great obstacle

* Vol. I. p. 444.

to its being used as a medicine. To avoid this effect, the dose at first should be very small, and should be very gradually and cautiously increased.

"The principal effect produced by morphine on the intestinal tube is constipation; hence it may be advantageously administered in cases of diarrhœa. But M. Bally has known several instances, where, after producing a constipated state of the bowels at first, a continuance of the medicine has brought on an abundant discharge of fecal matter. It sometimes produces colic pains about the region of the navel, but these are generally of short duration; and they cease of themselves, even when the medicine is continued, if the dose be not regularly increased. The author has some reason to consider the medicine as a vermifuge also, and he relates cases, where, under its use, worms have been discharged by vomiting. It is not improbable, however, that if any other emetic substance had been administered in these cases, the same effect would have resulted. He has examined the intestinal canal in some instances in which morphine had been taken, but he could never discover any particular effects produced by it on the mucous membrane, probably owing to the smallness of the doses.

"With respect to the urinary organs, the action of morphine is very decided on the bladder. In almost every instance it produces a difficulty of passing the urine, and this amounts sometimes to a complete retention; but the dysuria generally ceases as soon as the medicine is omitted. This property of morphine, however, only manifests itself in men: M. Bally remarks that the remedy never produces the least difficulty of passing the urine in females. This is an extraordinary physiological fact. Morphine produces no sensible effect on the kidneys. The secretion of urine neither increases nor diminishes under its use, nor does the quality of the fluid become sensibly changed.

"M. Bally states in positive terms that the vascular system is by no means excited by the exhibition of morphine in moderate doses. He thinks that the reason which has induced some physicians to consider the remedy as an excitant has been from observing its effects where very large doses had been administered, and where the functions of the circulating system were disturbed in common with those of all the other organs. The author relates several cases in support of his opinion respecting this point; and in conclusion he states, that if the remedy have any effect at all on the heart and arteries, it is a sedative, not an exciting effect.

"In the next place we are informed that morphine has no tendency to produce hemorrhoids, that it has no emmenagogue properties, that it will not provoke nasal hemorrhages, nor produce hemoptysis, that it will not allay cough in a satisfactory manner, that it is not diaphoretic, that it has no influence in the production of heat, that it will not oppress respiration, that it produces no flushing of the face or symptoms of asphyxia.

"The exhibition of morphine gives rise, in very many instances, to an intolerable itching of the skin. The irritation in some cases extends all over the surface, in others it is partial, confined more particularly to the nostrils, neck, loins, and the genital organs. The itching is not uncommonly accompanied by a cutaneous eruption.

"The brain and nervous system are the parts upon which morphine exerts its influence most particularly.

"Trembling and agitation of the muscular system are symptoms sometimes produced by the remedy, if continued for a length of time. It has also the property of occasioning dimness of sight, which renders it an improper remedy in amaurosis. M. Bally, having never administered morphine in very large doses, cannot speak with positiveness whether or not it have the property of occasioning dilatation of the pupils, but his opinion is that it has not. A young man took, in a mistake, a pill containing three grains of it; in this case no dilatation of the pupils took place. In cases of poisoning with opium, we have witnessed the pupils contracted to the apparent size of pins' heads. The author has noticed similar effects produced by the acetate of morphine. MM. Orfila, Magendie, Du-

puy, and Barthelemy state that the pupils invariably dilate in experiments with morphine on animals. Respecting this fact, M. Bally observes that the iris of dogs, cats, and horses has a mobility much greater than that of man.

"Morphine appears to possess all the sedative effects of opium, and the action of both on the system is very similar. The former, however, is not liable to produce head-ache and the other symptoms of excitement which usually follow the exhibition of opium. The stimulating effects of opium have been generally attributed to the narcotine which enters into its composition; but some chemists are of opinion that the latter substance is nearly inert when deprived of morphine, and that the stimulating properties which it appears to possess when administered to animals, depend upon some portion of morphine remaining in combination with it. It is scarcely necessary to notice that a combination of these two substances may possess medicinal properties very different from those of either singly. Although pure narcotine may be inert in its effects on the system, still by its combination with morphine its latent properties will be developed, and will modify the therapeutic properties of the latter substance.

"Morphine and its salts have not yet found their way into general use amongst medical men. This is rather to be regretted, as their medicinal properties are, so far as observation has hitherto proved, better adapted than those of opium, for the purposes for which this is usually administered.

"In the production of sleep, and in some other effects, M. Bally says that there is no proportion between the therapeutic properties of opium and its extracts, and those of morphine. Fifteen grains of crude opium contains, on an average, one grain of morphine. According to this proportion, it might be expected that a given quantity of morphine would have fifteen times the effect on the system that the same quantity of opium would produce. This is however by no means the case. M. Bally observes that it may be admitted, as very probable, that a grain of the aqueous extract produces greater drowsiness, than a quarter of a grain of its salifiable base. This is a circumstance well worthy of attention.

"In summing up his observations on the action of morphine, M. Bally divides its effects into the direct and indirect. The former are nausea, vomiting, gastralgia, eructations, constipation, and intestinal pains; the latter are ischuria, itching, and all the cerebral symptoms. It is to be observed, however, that most of these symptoms occur only when the remedy is administered in large or frequent doses. There is one very important advantage likely to result from the employment of the active principles of vegetable substances as therapeutic agents, namely, that they may be introduced into the system through the medium of the skin, in sufficient quantities to affect the constitution. Independently of the difficulty with which we sometimes meet of persuading individuals, particularly children, to take medicines, the stomach is often so irritable, as to reject every thing in the form, or under the name, of medicine. M. Bally says that he has met with great success in administering the active principles of some remedies in this way, which he calls the *sub-epidermic* method. It consists in removing the epidermis by means of vesicatories, and in applying the active substances to the surface of the true skin. Of two persons affected with *chiroplegia*, or paralysis of the hands, the one was cured by the action of a grain and a half of strychnine, administered according to this method daily; the other had recovered the use of one hand entirely, and very nearly the entire use of the other when M. Bally wrote his memoir. Morphine in particular produces wonderful effects in rheumatism, lumbar neuralgia, and sciatica, when employed according to the sub-epidermic method. It always gives ease, as soon as it is brought in contact with the skin; and patients complain of great torments when its employment is discontinued for any time."—*London Medical and Surgical Journal, Oct.* 1838, *from the Mémoires de l'Academie Roy. de Méd.*

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31. *Muriate of Ammonia.*—Dr. F. L. Hunefeld has ascertained that finely

powdered muriate of ammonia, united with gray mercurial ointment, and the extract of cicuta, is an excellent application for effecting the disappearance of lymphatic tumours and indurations, arthritic depositions, as well as rheumatic indurations and engorgements.—*Bulletin des Sc. Med., Jan.* 1828, *from Archiv. fur Mediz. Erfahrung*, 1826.

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32. *New Mode of Administering Quinquina.*—Dr. P. Richet, of Metz, relates in his thesis presented to the Faculty of Medicine of Strasbourg, Dec. 30, 1826, four cases of facial neuralgia, which, after resisting the ordinary treatment, yielded to the administration of powdered quinquina, one grain, and snuff, two grains, mixed, and used as snuff. The above dose was always sufficient, and in from two to three days the patients were cured as if by enchantment.

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33. *Chloride of Lime.*—"Mr. Docker, surgeon of the Windsor Castle, East Indiaman, has made a report on the effects of this important agent in the destruction of unwholesome effluvia between the decks of ships. As the vessel approached the tropics, they sprinkled the orlop decks with the solution twice a week, and they found that it completely succeeded in removing the disagreeable, close smell which always prevails when a number of persons are confined in a limited space, and without a free circulation of air. Mr. Docker attributes a great deal of the good health of the crew and passengers to the agency of the chloride.

"During their stay at Saugur Island, in the mouth of the Ganges, the gun-deck was regularly sprinkled, morning and evening, with the solution. The consequence, (he thinks,) was a comparative immunity from cholera, which was raging fatally in the other ships. The wind blew from the shore all the time and was loaded with morbific miasmata. In China they used the chloride, and escaped the dysentery which prevailed in the river Tigris at the time. Mr. Docker found the solution of incalculable value in removing the putrid and disagreeable smells that are usually generated in the sick-births of ships. He also verified the efficacy of the solution, as a gargle in arresting mercurial ptyalism. In a case of sloughing wound, where all the ordinary remedies had failed, 'it speedily put a stop to the sloughing process, and induced the sore to take on a healthy appearance.'"—*Medico-Chirurgical Review, Oct.* 1828.

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34. *Experiments on the Extractum Aloes Vulgaris.* By Richard Battley, Esq.—"I.—Two pounds avoirdupois, or 2 lbs. 4 oz. 2 drs. 48 grs. apothecaries' weight, of the extract of aloes, in the state in which it is imported from Barbadoes, imparted to cold distilled water 1 lb. 9 oz. 1 dr. 42 grs. The solution was of a fine yellow-brown colour, its taste intensely bitter, yet free from the flavour peculiar to this species of aloe.

II.—The residuum of I. imparted to hot distilled water 2 oz. 15 grs. leaving 4 oz. 2 drs. 15 grs. of undissolved matter. The solution was darker than I. inclining to purple, less intensely bitter, but having the peculiar flavour of the aloe vulgaris.

"III.—The residuum of II. imparted to alcohol 3 oz. 4 drs. 48 grs. leaving 5 drs. 27 grs. insoluble in this menstruum. The tincture was of a deep brown colour, bitter, and very offensive both to the taste and smell.

"IV.—The residuum of III. imparted to one part of liquor potassæ, diluted with seven parts of water, 4 drs. 48 grs. leaving, V.—79 grs. of a dark earthy appearance, deprived of all aloetic properties, and void of any qualities that the taste or smell could detect. Even the alkaline solution, IV. of a deep heavy brown colour, was so slightly aloetic as to be nearly insipid and inodorous.

"In I. or the cold solution of the aloe, again reduced to an extract, the profession will find at its disposal a valuable medicine, but the results II., III., will probably be found to be too drastic, and IV., V., absolutely inert."—*Journal of Morbid Anatomy, &c. Vol. I. Part. I.*

35. *On the vinous tincture of the seeds of Colchicum Autumnale.*—Professor Chelius has ascertained that during the use of the above medicine, the proportion of uric acid, in the urine, is very much augmented, and he attributes to this fact the benefits which it produces in rheumatism and arthritis. Dr. C. has employed the vinous tincture with success, both in acute and chronic arthritis, and with advantage also in different forms of prosophalgia, in sciatica, rheumatic ophthalmia, articular dropsies, and some cases of paralysis of the inferior extremities, not produced by an arthritic cause. Dr. C. commences with a dose of from 20 to 30 drops, and gradually and cautiously increases it, till signs of gastric irritation manifest themselves. He has never seen it produce ill effects, but it must be given with caution; he thinks the dose given by the English practitioners, too large.—*Bulletin des Sc. Med., May*, 1828, *from the Heidelberg Klinische Annalen, Tom. III.*

36. *Caustic Paste.*—Professor Graefe gives the following formula for the preparation of a caustic paste for the destruction of the callosities which accompany fistulas. ℞. perchlor. hydrar. ʒij.—Gum arab., aq. distill. aā gr. xxiv. misce intim. To be applied to the callous parts.—*Journ. de Chimie Méd., Sept.* 1828.

PRACTICE OF MEDICINE.

37. *On the Employment of Lunar Caustic in Plastic Inflammations of the Mucous Membrane of the Mouth, Nares, Throat, &c.*—"The mucous membrane lining the above conduits, and also that lining the larynx and trachea, is very subject to inflammation, and this inflammation is often accompanied by an exudation which becomes converted into a kind of false membrane. To this affection Laennec and some others have applied the term *plastic*. It is often epidemic—sometimes sporadic. But the membranes above-mentioned are subject to a chronic inflammation of a passive kind, in which the vessels are enlarged, their secretions increased and vitiated, and the patient kept in a very uncomfortable state for years. The uvula frequently becomes relaxed and elongated, and by tickling or irritating the epiglottis, keeps up a hacking cough, which excites great alarm in the minds of patient and friends. It is in this complaint, a very prevalent one, that an eminent surgeon of this metropolis has gained great reputation by employing lunar caustic in solution, on a sponge or brush, and very freely applied to all the above parts as far as they can be reached.

"A French physician, (M. Gerouard,) lately transmitted a memoir on this remedy to the Society of Medicine, in which he relates many cases of its success in the plastic inflammation alluded to, and recommends the caustic to be applied not only to the fauces, nares, and parts adjacent, but to be introduced into the larynx, where the inflammation has affected that part. M. Gerouard frequently employs the nitrate in substance, carefully fixed in a silver tube, straight or crooked. He observes that to cause the false membranes to be detached from the larynx or trachea, it is not always necessary that the caustic should enter these conduits. 'It is sufficient, in many cases, to touch the superior aperture. I have seen patients eject membranous tubes of some inches in length, the day after the rima glottidis was touched with caustic.' Dr. Authenac has also laid before the public some cases where the lunar caustic proved very beneficial. Dr. Brown, of New York, has also published a paper on the same subject, in the January Number of the Medical Recorder for the present year.

"But we wish to draw the attention of the profession to the employment of this topical application, in the chronic inflammations and relaxations above mentioned, as well as in laryngeal affections simulating phthisis. We have seen some cases recently where chronic coughs, accompanied by muco-purulent expectoration, that had harassed patients for years, and baffled all their physi-

cians, gave way, in a very rapid manner, to a few applications of solution of lunar caustic on the sponge of a common probang. These hints may prove useful to many of our brethren. The state of the fauces should be carefully examined in all cases of chronic cough; and the epiglottis may be often seen by pressing down the tongue. That part, and even the rima glottidis, may be always examined with the finger."—*Medico-Chirurgical Review, Oct.* 1828.

38. *Puerperal Peritonitis cured by the Application of Ice.*—A woman, on the fourth day of her accouchement, was attacked with great weakness, ardent thirst, and continual vomiting. The abdomen distended, excessively tender on pressure, extremely painful; face hypocratic; pulse hard, small, and frequent; lochia suspended. The patient was bled, iced drinks administered, and ice applied on the abdomen. Three hours afterwards the symptoms had abated, the thirst and vomiting had ceased, and the abdomen was less distended and less painful, on pressure. The ice was continued to the abdomen; the next day perspiration came on; the breast filled with milk, the lochia reappeared, and the patient entirely recovered.—*Journ. de la. Soc. Roy. de Med. &c. de Toulouse.*

39. *Ammoniacal Sulphate of Copper in Epilepsy.*—Dr. Urban, of Bernstadt, considers the ammoniacal sulphate of copper as one of the most efficacious and certain of the remedies in purely nervous epilepsy, without complication. He relates in *Hufeland's Journal, for October*, 1827, five cases in which he employed it with success.

40. *Metritis cured by Hydriodate of Potass.*—Dr. Guerard relates in *Horn's Archives, for July and August*, 1827, two cases of metritis after accouchement, cured by the hydriodate of potass. He prescribed three grains of this medicine in six ounces of emulsion, to be taken in the twenty-four hours. The remedy, it is said, did not produce any influence on the secretion of the milk, or upon the health of the infant.

41. *Treatment of Syphilis without Mercury.*—It appears that this mode of treatment has many advocates in Germany. Dr. Handschuch, in a work recently published, mentions, that he treated in the military hospital at Würzburg, from May, 1819, to February, 1820, one hundred persons; of whom, eighty-two had primary, and eighteen secondary symptoms by antiphlogistic remedies alone, without any mercury.

Dr. Oppenheim has obtained equally favourable results from the same mode of treatment, in the hospital at Hamburgh. He states that there were cured in eighteen months four hundred and two syphilitic patients. These remained in the hospital on an average fifty days, whilst formerly, under the mercurial treatment, they remained twice that period. Dr. O. commenced by venesection from four to twelve ounces, according to the constitution of the patient, and this was repeated on the second or third day, when the patient still complained of pain in the ulcers. The patient, during the whole period of treatment, remained in bed, and he was allowed for diet, morning and evening, water soup, to which was added, at dinner, two ounces of white bread. Glauber salts was administered so as to produce daily three or four evacuations from the bowels. The local affections were treated according to circumstances. Buboes were generally cured by pressure, even where fluctuation was perceptible. The pains that arose were not considered of much moment. Where this method did not succeed, emollient cataplasms were applied to accelerate suppuration, and then the buboes were opened with the lancet.—*Hecker's Litterarische Annalen der gesammten Heilkunde*, 1827.

42. *On the Use of Circular Ligatures in Intermittents.*—About thirty years ago, the application of the tourniquet was recommended by Mr. Kellie, a naval surgeon, as a preventive of the paroxysm of intermittent fever, and several in-

stances are recorded by him in Duncan's Medical Commentaries, for 1794, in which he used it with success. He applied the instrument to the arm of one side and the thigh of the other. Some further experiments have recently been made by Dr. Robouam, on the anti-febrile powers of circular ligatures, and the result is favourable. The ligatures were applied to the arm, and made sufficiently tight to interrupt the superficial circulation, and to retard that of the more deep-seated vessels. As soon as the extremities began to redden, the patient felt easier, and the symptoms of the approaching paroxysm abated; the cold and trembling ceased; the pulse became more free, &c. Nearly in all the cases Dr. R. found two or three applications of the ligature were sufficient to suppress the fever.

According to Dr. R. the following rules are to be observed: 1st. The most favourable time for the application of circular ligatures is the beginning of the cold stage, when they seldom fail to suppress or mitigate the fit. They have much less effect in the middle of the paroxysm, and none at all during the intermission. 2d. In case of syncope, the ligatures must be loosened; the patient usually bears them better after some time. 3d. If the ligatures are too tight, they may produce dangerous symptoms, and even suffocation. 4th. The application of circular ligatures has an effect correspondent to blood-letting.

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43. *Poisoning.*—Dr. Pallas is of opinion that the best antidote to be administered in the first instance, in all cases of poisoning, whatever may be the nature of the poison taken, is water. He says that oil, which has been recommended as an antidote for cantharides, dissolves the active principle of that article, and aggravates all its injurious effects. Dr. P. has obtained, in one case of poisoning by a strong solution of potass, much advantage from the use of the oil of sweet almonds.—*Mémoires de Médecine Militaire, Vol. XVII.*

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44. *Ointment for the Reduction of Glandular Engorgements.*—Take of the strongest mercurial ointment, 94 parts; hydrochlorate of ammonia, 6 parts; mix intimately. Professor Dupuytren, to whom we are indebted for this prescription, recommends frictions with the ointment to be made over the places where the engorgements exist. He thinks that the stimulant action of ammoniacal salt affords powerful assistance to the resolvent qualities of the mercurial ointment.—*Archives, Générales, &c. Sept.* 1828.

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45. *Treatment of Nymphomania.*—Dr. Ozanam, of Lyons, communicated to the Royal Academy of Medicine, the cure of a case of nymphomania, by touching the swollen genital parts, with a solution of four grains of nitrate of silver, in an ounce of water. A slight escar resulted from this application, and the sensibility of the parts were decreased, and in four days, by the application of this mild caustic, repeated twice a day, the patient was cured.—*Journal Général de Medecine, Sept.* 1828.

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46. *On Strangury from Cantharides, and its relief.* By John Davy, M. D. &c.—"Strangury from cantharides, especially when applied to the skin for the purpose of blistering it, is of such frequent occurrence, and generally of such short duration, that it is commonly thought little of; and I hardly know which has received least attention from systematic writers—the explanation of the affection or its relief.

"To those who are conversant in hospital practice, and who apply themselves to pathological anatomy, it must be well known that this kind of strangury is connected with phlogosis of the lining membrane of some part of the urinary passages. I have observed it most frequently in the pelvis of the kidneys, and in the bladder of urine, and occasionally in the ureters, and in the upper part of the urethra. The part affected with inflammation is swollen and dark red, from blood extravasated into the cellular structure, under the epithelium. Sometimes, when the effect is most severe, blood, it is well known, is actually effused into the passages themselves, giving rise to bloody urine.

Sometimes, on the contrary, when the effect is slight, œdema, with very little redness of the mucous membrane is produced, unattended with strangury or any symptom indicating the specific action of the cantharides on the parts in question.

"During the prevalence of strangury, I need not observe the secretion of urine by the kidneys is either much diminished or almost totally suppressed:—At the same time, from the irritation of the bladder, a constant desire urges the patient to attempt micturition.

"The experienced practitioner can have little faith in the means commonly recommended for relieving this painful affection; such as the camphor mixture, *spiritus ætheris nitrici*, &c. Those who have tried these medicines most, if I may draw an inference from the result of my own observation, must place least confidence in their efficacy. The only means of relief which I have found almost constantly to succeed, is the introduction of the catheter, used not with the idea of drawing off urine, but for the purpose expressly in question. It should be employed with delicacy and caution, just slipped into the neck of the bladder, and kept in only a few seconds. The process is seldom very painful, and the relief is almost immediate.

"The rationale of the effect I shall not attempt to explain, as I have nothing but conjecture founded on analogy to offer on the subject."—*Edin. Med. and Surg. Journ. Oct.* 1828.

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47. *On the effects of Ligature, and Bleeding, in cases of Poisoning.*—Dr. VERNIERE, has communicated to the Royal Academy of Medicine, a very simple therapeutic measure, which, he says, is applicable in all cases of poisoning. Some time ago, M. Magendie ascertained by experiment, that absorption might be entirely suspended in a dog, by producing artificial plethora, by the injection of tepid water into the veins. Starting from this fact, Dr. V. tried the following experiment; after having introduced three grains of the extract of nux vomica, into a wound in a dog's paw, he applied a ligature above the humero-cubital articulation, of the poisoned limb. He then injected slowly, by the jugular vein, as much water as the animal could support, without suffering much; he, finally, opened below the ligature, the vein of the poisoned limb, and after having collected some ounces of the blood, he injected it into the jugular vein of another dog, which died instantly, in tetanic convulsions. The wound of the first dog, being carefully cleansed, a little blood was allowed to flow, and the animal set a liberty. It gave no sign of poisoning. The producing plethora, by injecting water into the veins, being very inconvenient, Dr. V. suspected that this might be obviated by producing local plethora, which could easily be affected by a ligature moderately tight on the limb. The ligature being applied, all that is necessary would be, to open one of the principal veins of the engorged part, to produce the flow of the blood charged with the poison. Two experiments are given by Dr. V., in confirmation of the correctness of this idea. In one of these experiments, three grains of the alcoholic extract of nux vomica, were spread over a wound, made in the right cheek of a small dog. After a space of six minutes, during which the experimenter compressed the two jugulars with his two thumbs, he had the jugular vein of the poisoned side, opened with a lancet; the blood flowed in abundance, and the animal placed upon its feet, suffered no other inconvenience than a slight weakness.

In the other experiment, Dr. V. introduced, under the skin, covering the dorsal surface of the right fore-paw, three grains of the same alcoholic extract; and, a strong ligature at the same time, placed around the limb. After five minutes application, the poison was removed by repeated washing; the wound being quite cleaned, the ligature was removed, and the animal being put upon its feet, walked quietly: but, it was soon seized with tetanic convulsions of extreme violence. A large bleeding from the jugulars was instantly performed; the blood flowed freely, and in half a minute the convulsions ceased. The

animal being then placed at liberty, walked as before, only from time to time some rattling expirations were heard, which ceased quickly. Dr. V. thinks, that in this experiment, the ligature being too tight, the artery was compressed with the vein, which prevented local plethora from taking place, (a condition which Dr. V. thinks necessary for protection against the poison,) and, notwithstanding the care to wash the wound, enough of the poison was imbibed to cause, after the removal of the ligature, violent tetanus. From this experiment Dr. V. concludes, 1st. That a very tight ligature is useless. 2d. (What is more important,) that even when the poison has penetrated into the circulation, the evil is not beyond the resources of art, and that it is possible by means of large bleedings, to remove it from the system. These experiments are highly interesting, and especially, when taken in connexion with those of Drs. Pennock and Rodrigue, published in the American Journal of the Medical Sciences. These experiments satisfactorily show that the effects of the poison may be removed, more readily than by the mode recommended by Dr. V., namely, by applying a cupping-glass, or pressure over the poisoned spot, or a ligature to the limb, above the place where the poison has been inserted.

48. *Iodine in Gout.*—We have already announced, that M. Gendrin, the learned editor of the Journal Général de Medecine, has employed the iodine successfully in gout. In his *Journal* for *July* last, he states that further experience has confirmed its utility. He has varied the mode of using the remedy, having administered it to the exterior, as well as the interior, in frictions, baths, vapours, tinctures, alkaline solution, and enema, and in no instance has he found it productive of injurious effects. In every case, and he has now tried it in twenty-six, the patients were cured in a few days, or their condition rapidly ameliorated.

OPHTHALMOLOGY.

49. *On certain methods of treating Chronic Inflammations of the Eye, lately adopted at the Royal Westminster Ophthalmic Hospital.* By G. J. Guthrie.—Mr. Guthrie says that he has been employing with advantage the following remedies in chronic ophthalmia:—

"1. ℞. Argenti Nitratis, gr. ij. ad gr. x.; Liq. Plumbi Subacet. gtt. xv.; Ung. Cetacei ʒj.

"2. ℞. Hydr. Oxymur. gr. iij. ad iv.; Liq. Plumbi Subacet. gtt. xv.; Ung. Cetacei ʒj.

"The argentum nitratum and oxymuriate of mercury must be reduced first to an impalpable powder, then mixed with the ointment on a slab, and the liquor plumbi added. It may be done in a glass mortar. A double decomposition takes place in either ointment, which naturally diminishes the strength of each; but this change takes place slowly, particularly in the oxymuriate ointment, so that weeks elapse before they become inert. A very sensible difference is felt by the patient between an ointment only two days made, and another of two or three weeks standing, and the stimulating qualities may be calculated according to the state of the eye, as well as the strength of the composition. The argentum nitratum ointment is gray when first made, but soon changes its colour to a brownish-black. If the argentum nitratum be mixed with the ung. cetacei, (as I once used it,) without the liquor plumbi, it dissolves more rapidly; when used, the powdered nitrate falls into the fold of the conjunctiva, or rests on the lid, and is apt to cause a slough, which is prevented by adding the lead."

The manner of using the ointment is "by introducing between the lids a portion, larger or smaller, as the case may seem to require it, from the size of a large pin's head to that of a garden pea. The eyelids being closed, are to be

rubbed gently with the finger, so as to diffuse the dissolving ointment over the whole surface of the conjunctiva; a part of it usually, however works out by the motion of the lids, and should be wiped off, (if the nitrate of silver,) to prevent its staining the skin. Both ointments cause pain: in some persons it is considerable, in others less so, lasting from half an hour to an hour and a half; and when the ointment is newly made, sometimes for four hours, and even until the next day. On the subsidence of the pain caused by the ointment, that which previously existed is found to be relieved, if not entirely removed; and on the subsequent day, the patient usually acknowledges the benefit he has received with regard to all the symptoms. When the application has been severe, and the patient very irritable, a state resembling white chemosis occasionally takes place, and appears formidable to a person unacquainted with the effect of the remedy; it soon, however, subsides. The eye should be fomented with warm anodyne fomentations."

Mr. G. rarely repeats the application until the third day, "but the feelings of the patient are the best guide, the return of some of the old sensations indicating the necessity for its use, which should be, if possible, anticipated. In some cases of acute inflammation, two or three applications will arrest the progress of a serious disease, and effect a cure. In chronic cases, the ointment must be continued for a considerable time, and occasionally alternated with other remedies. Where they create a state of regularly increasing irritation, as they sometimes will do, cupping, purgatives, &c. are of service; when the remedies may again be resorted to."

Several cases are related by Mr. G. in which these applications appear to have been strikingly beneficial.—*Lond. Med. and Phys. Journ. Sept.* 1828.

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50. *Amaurosis successfully treated by the Ammoniacal Ointment.* By M. Lisfranc.—"*Case I.* A soldier of robust constitution, who had formerly campaigned in hot countries, and been exposed, in bivouacking, to the cold night air, found his vision grow feeble in the course of 1824. In the following year, he was unable to see his way about the streets, and was directed to have a seton in the neck, some leeches to the temples, and ordered some pills, composition unknown. His sight was improved by the measures employed, and he was enabled to distinguish various objects pretty well. The amendment, however, was temporary only, and, on the 10th of last January he entered La Pitié. He was bled from the arm, and ordered an emetic, but without effect; he could barely distinguish light from darkness—the pupils were dilated but acted feebly, and the left was more sluggish than the right. On being questioned respecting the history of the disease, he replied that, in the first instance, he could see rather better towards evening or twilight than in mid-day; he could also distinguish more clearly any object above him, than one which was below or on a level with the eyes.

"On the 24th of January, the head being shaved, Gondret's ammoniacal ointment was applied upon the forehead, and its employment continued till the 17th of February. Pustules were formed, which ulcerated deeply, and the case was proceeding in a favourable manner, when a severe erysipelas seized upon the head, and required the most active depletion. The patient was bled seven times in the course of as many days, and sixty leeches were applied besides. The erysipelas disappeared, and the powers of vision were exceedingly improved; in the right eye, indeed, they were entirely restored. The left, which was always more affected than the other, was scarcely if at all improved.

"*Case II.* A tailor, ætatis thirty-nine, had laboured under amaurosis for two years past, and was admitted into the hospital incapable of seeing at all. The pupils were dilated, and contracted but feebly on the approach of light—the patient had the peculiar undefinable aspect which invariably marks the amaurotic—the globe of the eye was continually rolling in the orbit, and was, in general, rotated upwards; and, lastly, the power of directing the organ, particularly sideways, was already beginning to be lost. The disease had come gra-

dually on, and the patient attributed its origin to his business requiring him to work much by candle-light.

"The ammoniacal ointment was applied upon the forehead and crown of the head, and its use was continued for upwards of a fortnight. Abscesses were formed, and converted into healthy ulcerations, which furnished a copious discharge. The good effects of the *issue* were quickly apparent, for, first, the patient was enabled to distinguish the daylight, then regained the power of discerning the objects around him, and finally, at the expiration of a couple of months, his sight was as perfect as before the amaurosis commenced.

"In order to prove beneficial, the application of the ointment should be always persevered in, till more than superficial ulcerations are produced. In both of the cases recorded above, the disease was very far from being recent, and required the treatment to be continued, in one case, for four months, and in the other for nearly as long."—*Med. Chirurg. Rev. Oct.* 1828.

51. *Pannus successfully excised.* By Professor Graefe.—A man, aged 45 years, blind of both eyes, in consequence of the whole of the conjunctiva of the cornea, and sclerotica of both eyes, being changed into a vascular thick membrane, having been treated, without benefit, by partial excisions and topical applications, Professor Graëfe resolved to excise it. Accordingly, having raised this membrane, near the cornea, with forceps, it was dissected with scissors, from half the cornea of each eye. As soon as the inflammation produced by this operation had disappeared, the membrane was excised from the other half of the cornea. Some days after, the rest of the membrane was removed in the same way. Vision was restored, and the patient was entirely cured by solution of opium, applied to the eye with a brush. M. Graëfe cites this case to show, that the excision of this description of pannus, is not effectual, unless performed part at a time, and at periods sufficiently near to prevent the membrane being re-produced, and with the precaution of not excising too much at a time, lest dangerous irritation should be produced.—*Institut de Clin. chirur. et Oph. de l'univer. de Berlin.*

52. *Remedy for opacity of the cornea.*—The following combination is recommended in the *Journal de Chimie Medicale, &c. for September*, 1828, as an useful application to promote the absorption of the effused lymph in opacity of the cornea. ℞. oxyd. hydrar., rub., agaric., alb. āā ʒss. Sacch. alb., ℥j. misce intim. et pulv. subtil. A small portion to be blown into the eye daily.

SURGERY.

53. *Memoir on many Cases of Luxation, in which the efforts at Reduction have been attended by very Severe Consequences.* By M. Flaubert, Surgeon in Chief to the Hôtel Dieu of Rouen.—M. F. has inserted in the third volume of the *Repertoire d'Anat. et de Physiologie*, an account of several luxations of the humerus, the reduction of which were followed by evils more or less violent. In five cases of luxation of the humerus, the attempts at reduction produced, in the 1st, rupture of the axillary artery, gangrene of the limb, and the death of the patient at the end of thirteen days; in the 2d, hemiplegia, the consequence, probably, of an effusion of blood in the brain, produced by the efforts at reduction. However, after some time, part of these symptoms disappeared; but the inferior extremity remained numb; the movements of circumduction of the arm were almost extinct, the hand could not be used, the temperature of the limb was diminished, the two last fingers were insensible and slightly tumefied, the thumb extended, the other fingers semiflexed.

The third case is that of a woman, aged seventy years, in whom reduction of luxation of the humerus was effected thirty-eight days after the accident. At the moment that reduction was effected, there occurred emphysema of the

shoulder and a part of the back. A little while afterwards, violent head-ache, hemiplegia of the left side; twelve days afterwards, prostration and death. Dissection disclosed partial or complete ruptures of the nerves which constitute the brachial plexus, at their origin. The cervical spinal marrow presented a range of white spots along the whole extent of the spinal marrow opposite the insertion of the sixth, seventh, and eighth cervical pairs, and first dorsal. In this extent, the spinal marrow exhibited an increased size, and was softened so as to be of the consistence of *bouillie*, of a brownish red colour, or the gray and white portions were mixed and confounded together.

In two others, one with a luxation of the humerus forwards, and the other downwards, very severe effects were produced by the efforts at reduction. In the first, considerable swelling of the limb, with acute pain, produced probably by the rupture of the muscles which surround the humero-cubital articulation; the motion of the forearm was completely destroyed; those of the arm were very feeble, and the fingers could perform only slight movements. In the second the usual efforts could not effect reduction, but they produced at first numbness in the left abdominal member, and at the same time paralysis of the luxated arm. Two months afterwards, notwithstanding the treatment employed, the neck, the wrist, and the forearm were the seat of acute pain, the limb became emaciated and useless, its movements being very feeble. M. Flaubert cites another observation, that of a man, aged forty years, who, overturned by a bale of cotton falling from an elevated situation, had the femur luxated upwards and outwards. The reduction was effected, and the head of the bone was distinctly heard to re-enter its socket. The patient died three days afterwards. Dissection exhibited the following lesions; considerable ecchymosis of the anterior and external portions of the thigh, rupture of the pyrimidal muscles, of the geminii and quadratus. Tearing of the capsule, and rupture of the inter-articular ligament near the head of the bone. The articulation contained pus, and through the torn capsule communicated with a collection of bloody pus, situated between the pectineus and adductor muscles.—*Bulletin des Sci. Med. August*, 1828.

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54. *Lithotrity.*—It is our object in this department of the Journal, to present a brief summary of the progress of medicine and surgery, during the preceding three months. Of the improvements in practical surgery, which we have had the pleasure of making known to our readers, one of the most important is that for breaking down the stone in the urinary bladder, or lithotrity. The different articles on the subject in this journal, present a full history of the invention and progress of this operation; it remains for us but to notice its present advances, and the opinion entertained of its value by those who have employed it; and independently of this being the performance of a duty, we are strongly urged to it from the conviction that the operation has been too much neglected in this country, and that its advantages are far from being duly estimated.

M. Lisfranc, whose extensive experience and established reputation, should give great weight to his opinions, and who having no claim to the invention, or to any improvement upon it, can scarcely be suspected of prejudice in its favour, informed the Royal Academy of Medicine on the 29th of November, 1827, that convinced of the superiority of lithotrity over the operation of lithotomy, he had requested Dr. Civiale to perform the former operation upon two patients at the Hospital of the School of Medicine. The first was a boy aged seven years, who had been suffering from stone for a year. Some flexible sounds were introduced into the urethra, preparatively to the operation.

Dr. Civiale introduced with facility a lithontriptor of two lines diameter. The stone, which appeared to be of the size of a very large hazelnut, was promptly seized; although formed of oxalate of lime, it was friable: the patient suffered little. Three days afterwards, a fragment of stone, which had entered the urethra, was extracted, and the operation of breaking down the calculus repeated. It was also repeated twice more, at intervals of two days: a little fever

supervened, a miliary eruption, and diarrhœa. The patient left the hospital, but returned a fortnight afterwards, when he was sounded by M. Lisfranc, and many practitioners, who ascertained that the patient was certainly cured.

Case II. A man aged sixty, had been cut for the stone at the age of twelve. The operation was very difficult, the convalescence was protracted, and a fistulous opening remained. He commenced to suffer again from the stone about fifteen months ago, and the complaint increased rapidly. The prostate is engorged, the portion of the urethra situate between the internal orifice of the fistula, and the neck of the bladder is much dilated; the urine is glairy; the stone, which is not hard, appears to be of the size of a large walnut.

Five sittings, during which the patient, very gay, showed no signs of pain, sufficed to destroy the stone; he came to the hospital to be operated upon and returned. His cure was complete.

Dr. Gendrin, the distinguished editor of the Journal Général de Medecine, does not estimate as highly this operation as M. Lisfranc; nevertheless, he admits its great utility. He says* "lithotrity is an operation which has now been known some years. We cannot doubt at the present day of its utility: but it is necessary to restrict it to a few cases, if we would not endanger the art and ourselves. If we recollect that it is necessary in this operation to introduce large instruments into a diseased bladder, when injuries often occur from the introduction of a sound only; that it is necessary, nevertheless, to repeat the introduction often, which is always excessively painful; that when the bladder has been diseased for a long time, as is often the case in calculous patients, it is much thickened, and cannot be distended by the injection preparatory to the operation, and which is necessary to place the parietes of this organ out of contact of the instrument, we can easily conceive that it is indicated to have recourse to this operation but in cases of calculus which are recent, where the calculi are not numerous nor large, and easily friable. We know that success has been obtained in cases much less favourable; but the cases of failure, and of serious injuries are not spoken of. A fortunate boldness cannot, moreover, ever justify him who encounters hazards. Lithotrity, limited to the cases where it is evidently indicated, renders still to the art services sufficiently great to rank it amongst the greatest discoveries; applied in the more severe cases, not only does it not succeed, but it endangers always the life of the patient; it will sacrifice more victims than cystotomy, and especially the high operation."

M. Cautourelle communicated to the Academy of Medicine, at their meeting of the 11th December, 1827, a case in which the operation of lithotrity was performed. The subject was an old man, whose bladder was so irritable that sounding produced severe injury, which could not be relieved but by many days employment of baths, demi-baths, and emollient cataplasms to the hypogastric region. This man was in a state of marasmus; he had a slow fever, with irregular exacerbations. M. C. administered sulphate of quinine, which contributed to support the strength, and to stop the febrile exacerbations. In a state so alarming, he hesitated to recommend lithotomy, and, moreover, the patient feared, and refused to submit to it. In these unfavourable circumstances M. Civiale undertook the operation of lithotrity; a gum-elastic sound was at first introduced daily, and allowed to remain some instants, to accustom the urethra to instruments; he commenced afterwards the operation. It was necessary at first to allow considerable intervals between the sittings, but they were lessened as the bladder became accustomed to the instruments. In eight sittings this man was completely relieved of his calculus; he acquired strength, the fever disappeared, and he acquired flesh.†

M. Amussat thinks that the operation of lithotrity is not suited to children, on account of the smallness of the instruments that must be introduced; that it is contraindicated in adults with diseased bladders or tumefaction of the prostate;

* Journal General, January, 1828.

† M. Gendrin thinks that this patient might have been more safely and speedily cured by the high operation.

also in patients with diseased kidneys, or with severe affections of organs important to life, as the heart, lungs, &c.; that it is dangerous in old men who have had a stone in the bladder for a long time, and whose urine is glairy. He thinks that it is applicable with every chance of success only where the patient enjoys good general health, and does not suffer much from the presence of the stone; in all other cases he recommends the high operation.

In the *Bulletin des Sciences Medicales*, for August last, is the following notice of a second letter which Dr. Civiale has recently published on lithotrity. "The new observations on lithotrity appear to us to offer the greatest interest, and to be sufficient to convince the most sceptical of the advantages of this precious discovery. The first series consists of eleven of the more simple cases, and we have seen with true satisfaction, that the success has always been complete. The patients having one or more stones, and whose organs were in a healthy state, were operated upon easily and without pain, and their cure has been generally prompt and always certain. Persons afflicted with calculi have consequently a great interest not to defer a long time to submit to an operation which offers great chances of success, and spares them acute pains. We find in the second series, six cases reported in detail, several of which are by the patients, in which a large stone and long-continued ill health have demanded the repeated performance of lithotrity. We particularly distinguish the seventeenth case, that of Baron de Zach. M. Civiale went to Genoa in February, 1827, to see this patient, who had been suffering from stone for two years, his health injured by violent pains. M. C. broke down, in many operations, forty calculi of the size of a common hazelnut, which were crushed in the instrument.

Two cases prove that lithotrity can be performed even in children. In the third part, Dr. Civiale notices the cases in which he thinks the operation ought not to be performed, and the modifications which have been proposed to his operation by some surgeons.

"The success obtained by Dr. Civiale has been verified by the most distinguished surgeons, and appear to us to justify the advantages of lithotrity in a great number of cases. This operation, always easy when the stone is of a small size, can still succeed in patients who have a large calculus, and whose organs are altered by the long presence of the stone. We most sincerely wish that this operation would be more extensively known, and that surgeons would imitate the example of M. Lisfranc, and not perform lithotomy, but after having proved by many trials the impossibility of lithotrity."

It would thus appear that unless some of the most distinguished surgeons of the French metropolis have been guilty of the greatest moral turpitude in reporting their cases of lithotrity, concealing the unsuccessful, and falsifying the successful ones, of which no one can presume to suspect them; the value of lithotrity cannot be doubted. That it is not applicable to all cases, is admitted by every one, indeed fatal results have sometimes occurred either from the awkwardness of the operator, or the case not being favourable; nevertheless, in certain cases it is perhaps the only operation that should be attempted.

The precise limits within which lithotrity is applicable, is however far from being as yet ascertained, many observations are still required to fix them, and the operation is no doubt still susceptible of improvements. As these shall be developed by future experience, it shall be our pleasure to lay them before our readers.

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55. *Fistula of the Parotid Duct and Gland successfully Treated.* By M. Beclard. —A youth, aged eighteen, lacerated his cheek by falling upon an iron stove. One of the upper screws penetrated the cheek, wounding the buccinator near the masseter, though it does not appear that it reached the mouth. The wound healed rapidly, with the exception of a small fistula through which there was a discharge of a clear liquid, especially while he was eating. This showed that the stenonian duct had been wounded. After having fruitlessly employed the several processes which were directed by his attending surgeon, on the

21st of May, 1821, he placed himself under the charge of Beclard, in *l'Hôpital de la Pitié*. It had been three years since he had received the injury.

Beclard converted the fistula into a recent wound, by the excision of its sides; then with a small trochar he perforated the cheek from the wound, passing the instrument obliquely backwards. Having withdrawn the stilet, through the cannula, which remained in the perforation, he passed the end of leaden wire. Having withdrawn the cannula, he in the same manner made a second puncture; beginning, however, within the mouth, about three lines anterior to the former puncture, carrying the point of the instrument obliquely, till it passed into the wound near the place where the wire was inserted. The external end of the wire was passed through this opening into the mouth, being thus bent somewhat in the form of the letter V. The ends of the wire were twisted together; and the external wound was closed by a needle and the twisted suture. For the first three days, there was some distension and pain, owing to the saliva's not passing at first very readily by the side of the leaden wire. On the fifth day, the saliva passed freely into the mouth, and the swelling was nearly gone; the external wound had united, and the needle was now removed. Still, the internal fistula was not so complete as to carry off all the saliva, while the patient was eating. The duct was distended into a kind of sac, producing, during his meals, a small tumour, which was, however, easily emptied into the mouth, by a very slight external pressure. The leaden wire remained inside the cheek, till it fell out, in September, when the cure was complete.—*Archives Générales.*

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56. *Staphyloraphy.*—This operation, which was first performed by Graëfe, in 1816, and three years afterwards by Roux, without, however, his being aware that the former had ever performed it, and in this country, first by Professor Warren,* and subsequently by Professor Stevens,† has been twice performed with success, by Dr. Dieffenbach,‡ of Berlin. Some difficulty having been generally experienced in tying the knots in the ligatures by which the edges of the palate are brought together, Dr. Dieffenbach has been induced to employ wire of pure lead, instead of the thread used by other operators, and he has found it much more convenient, it being merely necessary to twist the ends of the leaden wire. The operation, as performed by Dr. D. consists of three steps. In the first, the borders of the division are pared; in the second, the ligatures are applied; and in the third, the suture is closed by twisting together the ends of each ligature of leaden wire. Dr. D. has proposed a second method, which he has not yet, however, tried upon the living subject: in this, needles and ligatures are dispensed with, and a kind of forceps employed to compress, reunite, and hold together, the borders of the division.

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57. *Tracheotomy Successfully Performed.* By Dr. Senn, of Geneva.—In Vol. II. pp. 213 and 456,§ we noticed two cases in which this operation was successfully performed, and Cluoet, of Berlin, is said to have kept a cannula in the trachea of a woman twelve years. The operation would appear perhaps not to be so generally fatal as has been supposed. A little girl aged six years was taken to Dr. Senn, on the 6th of August, 1826; she had difficult respiration, difficulty of swallowing, voice extinct; she had been treated for croup some months before. Dr. Senn advised milk diet, friction to the throat with iodine ointment, and a tenth of a grain of hydriodate of potash, internally every two days. Under this treatment the patient improved, she became fat, and the respiration less difficult. Dr. Senn lost sight of her till April following, when her emaciation was extreme, her respiration wheezing, anxious, scarcely to be observed. The trachea was drawn upwards very strongly at each expiration; deglutition was so difficult that the patient could swallow only liquids. It was determined in con-

* See American Journal of the Medical Sciences, No. V.
† See North American Medical and Surgical Journal, Vol. III. p. 233, et seq.
‡ Literar. Annal. des gesammten Heilkunde, Feb. and Nov. 1826.
§ American Journal of the Medical Sciences.

sultation to perform tracheotomy, and on the 3d of May it was done in the following manner. First the skin and cellular tissue were divided; six hours afterwards two rings of the trachea were divided, and a cannula properly curved was placed in the wound. The difficulty of breathing, &c. ceased immediately. The cannula was occasionally obstructed by mucus for a few days and endangered the life of the patient, but the parts became habituated to the cannula. The child recovered her strength, and was quite well three months after the operation. When the cannula was closed with the finger she could speak, and her voice was becoming daily stronger.—*Journal Général, Jan.* 1828.

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58. *Actual Cautery in Osteo-sarcoma of the Lower Jaw.*—Dr. Giebl relates in *Der Neu Chiron*, a journal of surgery and midwifery, a case of osteo-sarcoma of the lower jaw, in which he employed the actual cautery with success, and was thus enabled to dispense with the operation of resection, which he was on the point of performing. Dr. G. thinks that the cautery may, in many cases of this description, be substituted for resection.

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59. *Lythotomy.*—Of eighty-three operations by the lateral method, performed by M. J. M. Virigel, at the Hôtel-Dieu, of Lyons, eighty were successful.—*Revue Médicale, February*, 1828.

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60. *Chloruret of the Oxide of Sodium in Ulcers.*—M. Williaume, of Metz, has found this solution very beneficial in two cases; the first, an ill-conditioned ulcer of the upper lip and ala of the nose; the second a case in which numerous ulcers threatened to invade all the skin of the legs of an individual who had been recently attacked with fever—*Bulletin des Sciences Médicales.*

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61. *On Ligatures of Ruptured Arteries complicated with Fractures or Gun-shot Wounds.*—The rupture of a principal artery of a limb, in fractures and gun-shot wounds, has been supposed to require the amputation of the limb. M. Dupuytren has tried in two cases the tying the artery, some distance from the injury, as in the operation for aneurism, and with the happiest success. Professor Delpech, of Montpelier, has also performed it with advantage in one case. M. Dupuytren has published an interesting memoir on the subject, in the fifth volume of the *Repertoire d'Anatomie, de Physiologie, et de Pathologie;* he thinks that many limbs may be saved by this operation.

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62. *Fracture of the Cranium, with Depression, cured without an Operation.*—A little boy, nine years of age, was knocked down by a heavy piece of wood, which fell upon his head from a considerable height. Blood issued from the mouth, nostrils, ears, and eyelids. On examining the wound, the cranium was found slightly depressed in the direction from one ear to the other; and above the right ear there was a laceration, an inch long, of the skin. A probe introduced under the detached integuments penetrated easily so far as the opposite temporal region. A large crucial incision, which divided the integuments, brought into appearance a fracture of the bone, which extended from the temporal bone of the right side, across the parietal, to the left side of the head. The anterior portion of the bone was depressed about half a line below the level of the posterior. A second fissure, commencing at the termination of the first, directed its course along the frontal bone, towards the right eye. The edges of this fracture separated to the distance of about a line from each other, so that the pulsations of the brain were observable through it. A great quantity of sanguinolent fluid issued from the fissure. This last circumstance determined Professor Graefe to delay the operation of trephining, and to try the effect of blood-letting, cold applications to the head, laxatives, and vinegar lavements. The sensibility of the patient returned in a short time under the employment of these remedies. The whole of the denuded wounds of the bone, which were very extensive, were dressed simply with lint soaked in tepid water. By de-

grees, several portions of the denuded and contused bone separated, forming altogether nearly three square inches of surface. Under these portions of detached bone, the dura mater was converted into a fleshy substance of a good aspect, which, under the continued use of the simple dressing already mentioned, became converted into a firm membranous substance. In about three months, the child completely recovered.

This cure, as well as many more of a similar nature, prove that the application of the trephine is not always necessary in fracture of the cranium with depression. There is no operation, to the performance of which the surgeon is called, so generally unsuccessful as that of trephining, and it becomes almost a question, at least in our mind, whether more recoveries would not take place, upon the whole, if this operation was never had recourse to. Unless the depression be very considerable, we conceive that it would be adviseable to defer it for some time, and give other remedies a fair trial.—*Institut. de Clinique Chirurg. de Berlin.*

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63. *Double Luxation of the Astragalus.*—Dr. Follot, of Pouilly, communicated to the Section of Surgery, September 11th, 1828, a case of double luxation of the astragalus, upon the leg and upon the calcis. The astragalus was extracted, and the wound healed. Fabricius de Hildanus was the first who, in a case of this kind, extracted the astragalus instead of amputating the limb; it has since been practised with success by Aubray, Ferrand, Laumonier, Maudnyt, Daniel, Boyer, &c. In the Philadelphia Journal of the Medical and Physical Sciences, Vol. XIV. p. 104, a case, successfully treated, is recorded, in which the bone was preserved.—*Journal Général de Médecine, Oct.* 1828.

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64. *Case in which a Polypus of great size was removed from the Root of the Tongue by Ligature.* By Richard Huie, M. D. &c.—In August, 1826, Dr. Huie was called to see a maiden lady, between forty and fifty years of age, who having been about twelve months previously exposed to cold and fatigue, "was attacked with catarrhal symptoms, attended by some inflammation of the fauces; but her complaints yielded to the usual remedies, and she thought no more of them. Three months after this, however, she was observed by her friends to articulate less distinctly than before, and about the same time, she began to feel a slight difficulty in swallowing. These symptoms continued to increase, until at length she could swallow nothing but liquids, or bread crumbled down very fine, and suspended in soup or tea. She invariably felt worse in damp weather, and it was then only that she experienced any material difficulty in breathing. A degree of retching was often excited, and occasioned great distress; and the food she attempted to swallow was frequently returned through the nose. She spoke like a person whose tonsils were very much enlarged, a circumstance which had led to the application of various rubefacients and gargles, the true nature of the disease never having been understood. On inspecting the fauces, a smooth round tumour was seen filling the greater part of the pharynx, and accompanying the motions of the tongue. The portion of the tumour, which was visible, was of the size of a chesnut; but when, by pressing the tongue downwards, a degree of retching was excited, the lower portion came partially into view, and showed it to be double that size at least."

On examination with the finger, the tumour was found to be hard and unyielding, and from its wriggling motion, when a degree of retching was excited, it was conjectured that the pedicle was comparatively small, but it could not be brought into view. In consultation with Dr. Ballingall it was determined to apply a ligature to it, and accordingly on the 4th of September, Dr. Huie proceeded to the operation, assisted by Dr. Ballingall and Dr. Russell. While Dr. Ballingall kept the patient's jaws asunder by means of a cork introduced between the teeth, Dr. Huie took a long and stout ligature in his left hand, and grasping one end with a pair of common dressing forceps, he carried it backward into the pharynx on the right side of the tumour. Then touching the parts

gently with the extremity of the instrument, he produced that degree of retching already alluded to, which, bringing the polypus more completely into view, he succeeded, with even less difficulty than he expected, in throwing the ligature over it. He had purposely abstained from forming any noose upon the ligature, being anxious to ascertain, as far as possible, the size of the pedicle, round which the ligature immediately slipped, and satisfied himself by the narrowness of the loop which was formed, that it was in reality very small. A double knot was now tied, and tightened by means of curved probes, forked at the extremity, and the ligature was cut away at the distance of an inch and a half from the pedicle. The latter part of the operation was a good deal interrupted by the retching induced by the introduction of the instruments; but we had the satisfaction of perceiving, by the altered hue of the tumour, that the strangulation was completely effected.

"Upon pulling gently at the ligature on the fourth day, the tumour came away entire; the patient was freed from suffering; and to this day enjoys excellent health.

"The tumour, which is in the Museum of the Royal College of Surgeons, was of an oval form, weighed exactly an ounce, and measured five inches in its long, and four in its short circumference. It was broadest opposite the insertion of the pedicle, which entered at the distance of an inch from the upper part of the tumour. A longitudinal incision, which has been made into it, displays a firm cartilaginous nucleus, as large as a chesnut, surrounded by a fibro-cartilaginous structure, forming the rest of the tumour."—*Transactions of the Medico-Chirurgical Society of Edinburgh, Vol. XIII.*

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65. *Case of Osteo-Sarcoma of the Lower Jaw successfully removed.* By James Syme, Esq.—The patient, a man aged twenty-four, about eight or nine years ago, noticed a hard swelling of the gum on the outer side of the grinding teeth of the lower jaw, which gradually increased, but was not painful. When it had attained the size of an egg, he applied to a surgeon who extracted three of the adjoining grinders, after which it grew rapidly, and having become as large as a double fist, he repaired to the Royal Infirmary of Edinburgh, about six years ago, where the tumour was cut off from the bone. The wound did not heal, and the actual cautery was repeatedly applied in vain to make it do so. He returned home after remaining in the Infirmary eight months, and the tumour afterwards rapidly increased.

When Mr. Syme saw him "the mouth was placed diagonally across the face, and had suffered such monstrous distortion as to measure fifteen inches in circumference. The throat of the patient was almost obliterated, there being only about two inches of it above the sternum, so that the cricoid cartilage of the larynx was on a level with that bone. When the tumour was viewed in profile it extended eight inches from the front of the neck. It completely filled the mouth, and occupied all the space below it from jaw to jaw. The tongue was thrust out of its place, and lay between the teeth and cheek of the right side. The only portion of the jaw not implicated in the disease, was the right ramus and base of the same side, from the bicuspid teeth backwards. The tumour, where covered by the integuments, was uniformly very firm, and for the most part distinctly osseous. The part which appeared through the mouth, was a solid, irregular, fungus-looking mass of variable consistence, from which an alarming hæmorrhage had occasionally occurred; and for the last three or four weeks there had been almost daily a discharge of blood to the extent of one or two ounces. Notwithstanding the great bulk of the tumour, the patient could move his jaw pretty freely in all directions. With the exception of the disease now described, Penman enjoyed good health. He was a tall, well made, though much emaciated, intelligent young man, and possessed uncommon fortitude.

Mr. S., with the assistance of Professor Ballingall, removed this tumour on the 7th of July, in the presence of Dr. Abercrombie, Professor Russell, Dr. Hunter, &c. in the following manner:—

The patient being seated on an ordinary chair, an oblique incision was made by running a sharp-pointed knife through the lip, from the right angle of the mouth to the base of the jaw, where he proposed to divide it, viz. at the second bicuspid tooth, which had been removed the evening before. Having exposed the external surface of the bone at this part, it was divided partially with the saw, and the division was completed by means of the cutting pliers. The inferior coronary artery, which Dr. Ballingall had prevented from bleeding by compressing it in the lip, was then tied.

"I next made a long semicircular incision from the left angle of the mouth, in the direction of the base and ramus of the jaw, and terminating over the condyle. Having secured the facial artery, and two transverse branches of the temporal, I dissected down the large flap thus formed quite to the neck, so as to let Dr. Ballingall feel the carotid lying in the muscular interspace, and ready to be compressed if there should be occasion. I then made another curved incision in a similar direction, commencing from the mouth, at such distance above the former as to include a portion of the cheek, which was firmly adherent to the tumour; and having dissected up this flap, divided the masseter muscle, so as to expose the whole external surface of the tumour. The next step was to divide the mucous membrane of the mouth. This rendered the tumour much more moveable, and enabled me to expose the coronoid process, divide the temporal muscle, and open the articulation at its fore part. I had then merely to cut closely round the condyle, and detach the pterygoid, mylohyoid, and other muscular connections.

"The operation occupied twenty-four minutes; but all this time was not employed in cutting. The patient bore it well, and did not lose more than seven or eight ounces of blood. His breathing was never in the slightest degree affected.

"After placing a few folds of caddis in the great cavity left by the tumour, which weighed four pounds and a half, I brought the integuments together on the left side of the face, in a triangular form, and retained the edges in contact by the twisted suture. The incision on the right side was dressed in the same way. Two or three turns of a roller were then put round the chin and head, so as to support the relaxed integuments.

"The patient made no complaint of any sort after the operation. His pulse for the first two days was about 100, but soft, and gradually subsided to the natural standard. He slept well, had an appetite for his food, viz. beef-tea and whey, which were introduced into the pharynx through a funnel with a curved tube, and performed his excretions regularly. The whole of the caddis was removed by the third day, when the patient sat up, and declared that he felt better than he did previous to the operation."

Mr. S. offers the following remarks on the mode of operating. The patient, he says, ought certainly to be seated, since the blood will thus be prevented from running into his throat so as to delay the operation, or even render tracheotomy necessary to prevent suffocation.

There is no advantage, Mr. S. believes, in tying the carotid artery previous to commencing the extirpation. 1. It is unnecessary, because the only arteries which must and ought to be cut, are the facial, some of its branches, and some branches of the temporal. 2. It must exhaust the patient, especially when the tumour throws an obstacle in the way, as where there is hardly any space left for applying a ligature. 3. It increases the danger, since it cannot be denied that there is always more or less risk of hæmorrhage on the separation of a ligature from so large a vessel as the carotid. 4. It is of no use, since the anastomotic communications are so free, that a ligature at the trunk is not sufficient to arrest the flow of blood from its branches. 5. Any good effect that can be expected from *tying* the trunk, may be obtained by *compressing* it after the integuments lying over it have been dissected off or divided.

For sawing through the lower jaw, Mr. S. thinks that the chain saw, is not the best instrument. It is not necessary to saw through the whole thickness

of the bone. A pretty deep groove being made, the cutting pliers easily complete what remains.

"The external surface of the tumour should be completely exposed before proceeding farther, since all the vessels which ought to be tied may then be tied in the first instance, and a free drain is afforded to the blood which oozes from the small branches. The mucous membrane of the mouth being next cut by a scalpel, carried from the tonsil outwards, the tumour is rendered much more moveable, and the surgeon will generally be able to free the coronoid process from its muscular connections. Should he fail in doing so, he ought to cut it across with the saw or pliers, and then depressing the tumour as far as possible open the articulation on its fore part; after which he has merely to carry his knife close to the tumour, and divide the remaining attachments.

"I think Dr. Cusack is entitled to much praise for insisting on the propriety of opening the articulation from before, since a wound of the internal maxillary, or even the temporal, is otherwise almost inevitable.

"Penman is now quite well. His mouth is contracted to nearly the natural size, and his appearance is not disagreeable. He is daily improving in articulation, and can already express his wants pretty intelligibly."—*Edin. Med. and Surg. Journ. Oct.* 1828.

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66. *Fatal Case of Depressed Fracture of the Skull, in which the symptoms of Compression did not appear till some days after the accident.* By JAMES WALLACE, Assistant Surgeon, R. N.—On Sunday evening at seven o'clock, July 17, 1825, a seaman in a fray received a wound in the head, with what instrument, or what were the symptoms which immediately followed, could not be ascertained. At half past ten o'clock, however, when he was first seen by Mr. Wallace, he was quite sensible, and able to answer questions distinctly. "The pupil, the pulse, and the respiration were perfectly natural. The wound in the scalp was about half an inch in length, and situated immediately over the junction of the superior angle of the left parietal bone with the occipital. There was a great deal of puffiness around the wound, with a hardening around the puffiness, which communicated the feeling as if a portion of the bone were depressed; but as this is often a deceptive feeling, and there was no symptom indicating compressed brain, I did not think myself warranted to cut down and examine the bone. I introduced the point of my little finger into the wound, in the hope that thus I should ascertain whether there was depression; and on making pressure with the finger at that time, the man winced and complained a little. But as it appeared to me that the pain he complained of was more from irritation in the scalp, than from pressure on the brain, and as all other circumstances were favourable, I made no further examination, and simply dressed the wound.

"That night he slept soundly. At six next morning he rose with the rest of the convalescing patients, went down to his birth on the lower deck to change his clothes, and at eight was in the sick birth, seemingly as well as if nothing had happened to him. All Monday he kept equally well till towards evening, when severe head-ache came on, which was completely removed, however, by a copious blood-letting: and on Monday night he slept again soundly. On Tuesday he was up at the usual hour, (six,) but as he had still slight head-ache we sent him to bed again, and gave him saline purgatives. Through the day he was easy, and at night slept well. On Wednesday he had not any particular complaint, he was in the birth with the rest of the patients, and we were beginning to forget almost that he had met with a serious accident. But on Thursday morning, although by all accounts he had slept well enough, he was heard moaning, and on being spoken to, he was found in a state of stupor, and delirious, with the eyes suffused and irritable, the pupils contracted, and the respiration much hurried. The wound had been looked at on Tuesday, and presented then rather an unfavourable aspect; now it was in the same state, without any disposition to heal, discharging a thin ichor, and retaining all its

surrounding hardness and puffiness. It now occurred to us that there was separation of the pericranium and dura mater from the bone; and to ascertain this, and consequently to apply the trephine, we cut freely down upon the part. On laying bare the bone, we found that it was indeed depressed to a very considerable degree. A portion of it immediately under the wound, in size about the circumference of a crown, was beat in upon the brain full half an inch, and broken into four pieces. The pieces of bone had their points thrust down upon the brain, while the other ends were still attached to the sound bone, the whole forming outwardly a cup-like cavity. Instead, therefore, of trephining, merely to give exit to matter pent up between the cranium and dura mater, we trephined to raise the depressed bone. Mr. Bell, the surgeon of the ship, performed the operation; and on removing the portions of bone, the brain again bounded into its place. The dura mater was found injured and slightly sloughy at a point. The brain itself might be slightly lacerated.

"It would be needless to detail particularly the treatment which was pursued from the performance of the operation up to the time of the man's death. It is enough to say, that, by strictly putting in force the necessary measures, all immediate danger was warded off. Three days after the operation he was perfectly in his senses again; the pulse moderate; the heat of skin natural; and the wound of the scalp had healed to about an inch. For three or four days more he did as well as we could have wished, and we were beginning to entertain great hopes of his recovery. But at the end of that time a small, sloughy, fungus-like substance appeared at the bottom of the wound. At the next dressing it had increased, and speedily it began to tear up the wound. Now too a second substance of the same kind appeared, which increased like the first, while the discharge from the wound became exceedingly fœtid. By and by the greater part of the fungus dropped off, but immediately it was replaced by a new portion, which, again falling off, was as speedily replaced by another. At every dressing there was a portion to come away, and a new portion to supply its place. Under all this the patient retained his senses; but he gradually sunk in spite of all support; and on Sunday the 7th of August, exactly three weeks after the receipt of the injury, and seventeen days after the performance of the operation, he expired."—*Ibid.*

MEDICAL JURISPRUDENCE.

67. *Case of Poisoning with Belladonna.*—A man, æt. 46, swallowed, by mistake, forty-four grains of the powder of belladonna; an hour afterwards, he was attacked with violent head-ache, especially over the orbits; the eyes became of a red colour, which quickly extended over the face, and lastly over the body, so that within a few minutes the whole skin exhibited an intense uniform redness, such as is observed in scarlet fever; at the same time the patient felt violent pain and heat in the throat, and along the œsophagus, and on examination the fauces were found strongly inflamed. These symptoms were accompanied by a very painful irritation of the urinary passages, especially of the neck of the bladder, with a constant but fruitless desire of making water. Copious bleeding, emollient clysters, fomentations on the belly, and twenty-five leeches to the hypogastrium, relieved the patient in some degree, and within twenty-four hours, he was perfectly recovered.—*Nouv. Biblioth. Méd.*

68. *On the Tests by which Morphine may be made known in cases of Poisoning.* By V. Bally.—"The substance vomited by a dog which had been made to swallow twelve grains of acetate of morphine was a colourless fluid, without odour, slightly viscid. It turned frothy by agitation with solution of gum. It was about three ounces in quantity. Submitted to evaporation in a porcelain cup, it gave a small quantity of yellowish extract, of an odour of juice of meat, of a

bitter taste, a little saltish, and it reddened tournesol paper. This extract, treated with boiling alcohol, separated into two portions, the one flocculent, insoluble, formed of the mucus and of the gelatinous matter; the other, soluble in this liquid, was evaporated to dryness. The latter, redissolved in a little water, let fall floccules of greasy matter. Submitted to slow evaporation, the aqueous solution gave a deposite of prismatic crystals, of a yellow colour, which presented the following properties: they had a bitter taste; a solution of them in water precipitated, by the addition of ammonia, in white floccules. Treated by concentrated sulphuric acid in a small glass tube, they disengaged a decided odour of acetic acid.

"Dissolved in weak nitric acid, these salts immediately gave a dark yellow solution, approaching to the colour of blood.

"This union of properties proved clearly that these crystals were acetate of morphine. The quantity obtained was about three grains.

"The stomach of a cat which had been poisoned by twelve grains of acetate of morphine was boiled for ten minutes in six ounces of distilled water. The filtered liquor was evaporated and treated with alcohol in the way already mentioned. The alcoholic solution was slightly yellow, and it furnished by evaporation an extract of a similar colour, only a little darker, of a saltish taste, followed by bitter, which manifested, by the addition of a few drops of nitric acid, a good yellow orange colour, approaching to red; phenomena which proved the existence of a small quantity of acetate of morphine.

"But it is remarkable that, in some instances, these reagents will not enable us to discover any trace of morphine in the stomach, intestines, heart, or in the blood taken from an artery a few minutes before the death of an animal which has been poisoned by this substance. A hound was poisoned by twelve grains, but no trace of it could be recognised in any of those parts. Two kittens died from the injection into the stomach of a solution of acetate of morphine, the one of five, and the other of eight grains. The stomach of that which had received the five grains showed unequivocal traces of the poison, easily distinguished by the reagency of nitric acid; whilst in the other nothing of the kind could be discovered. From these facts, and several others of a similar nature, M. Bally concludes, 1st, that it is possible, in many cases of poisoning, to discover, by chemical means, sensible traces of vegetable poison; 2d, that it is always in the viscera to which the poison is first applied that we are to look for its presence; 3d, that the matter thrown up by vomiting shortly after the injection of the poison into the stomach contains sensible quantities of it; 4th, that all the efforts made to discover it in the blood have been fruitless.—*Lond. Med. and Surg. Journ. Oct.* 1828, *from Mém. de l'Acad. Royale de Méd.*

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69. *Medico-legal Consultation, on a Case of Amputation of a Thigh affected with Gangrene.*—This memoir, read on the 22d of May, 1828, to the Royal Academy of Medicine, section of surgery, by M. Chaussier, relates to a case which had been brought before the Royal Court of Metz. It is interesting in a medico-legal and pathological point of view, and also as showing what is considered a proper honorarium, in France, for surgical services.

A man, aged twenty-eight years, having fallen from a horse, suffered a compound fracture of the thigh. A surgeon was called, who applied the proper treatment; nevertheless, on the sixth day, on removing the dressings, he perceived that the toes had become gangrenous. He immediately called Dr. Labesse, in consultation, and on his arrival this latter physician found the leg sphacelated to two inches above the knee, and the thigh sprinkled with black and yellow spots. The evil increased so rapidly, that it was evident that a little loss of time would be fatal to the patient. Dr. L. upon the solicitation of the parents, decided to perform, immediately, amputation of the limb. The operation was entirely successful, and the patient was cured after seventy dressings. He enjoys to the present period good health. Nevertheless, urged no doubt by malevolent and envious persons, the patient refused to pay the fee, (one

thousand dollars,) and moreover wished to prove that Dr. Labesse had amputated against the rules of surgery. M. Chaussier, in his memoir, protests strongly against such excessive ingratitude, and proves that the rule not to amputate sphacelated limbs before a line of demarcation is formed, is too absolute; that it is correct only in cases of gangrene from an internal cause. The experience of Larrey, Yvan, Samuel Cooper, Hutchinson, Lawrence, Thomson, Hennen, &c. has proved that amputation of a sphacelated limb, produced by an external or mechanical cause is indicated, if the life of the patient is in danger, although the gangrene is not circumscribed; therefore, the amputation performed by Dr. Labesse was performed according to the true rules of the art. The fee demanded by Dr. Labesse, and which the patient considered as excessive, appears to M. Chaussier too moderate, and he has fixed it at $1320.

In a postscript to the memoir, there are some observations on gangrene from internal and also from external causes, and two cases of gangrene from mechanical cause, followed by death, in consequence of amputation of the limb not having been performed in proper time.

The patient of M. Labesse has desisted from his appeal to the Royal Court of Metz, and he has payed the costs, and the fee legally due his physician.

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70. *Case of Supposed Poisoning.*—As the lives of individuals often depend upon the testimony of medical men, every fact that can tend to render the latter cautious, or enable them to form correct opinions on subjects respecting which they are likely to be called on for evidence in a court of justice, becomes of extreme interest, we therefore copy from the *London Medical and Physical Journal*, for October last, the following case, which occurred in France, in 1818. "A woman was attacked with violent pains in the stomach, and general symptoms of illness, after having walked some distance on a very sultry day. She had taken no refreshment whatever until her return home, when she partook of a light meal with her husband and some friends. From the commencement of the attack, she was tormented with raging thirst; she had frequent stools, accompanied with great pain in the bowels. She did not vomit. Upon examination post mortem, the stomach was found to be in a state of inflammation, and there was every appearance of some violent caustic having been applied. In some parts the coats of the stomach were entirely destroyed. The pyloric portion was of a deep brown colour, and contracted. After this examination, Dr. R. declared it to be his opinion that poison had been administered. The same opinion was also given by several physicians and surgeons, who were consulted. It was determined that the destruction of the stomach must have arisen from some caustic material, *for that no disease could destroy so large a portion of living animal substance.* Chaussier was fortunately called upon for his opinion: he very properly deprecated the rash and ignorant decision of his brethren, who had made no attempt to prove the presence of poisonous matter. He stated that the same appearances, and the same sudden accession of symptoms, frequently occurred from internal disease. The husband of the woman was consequently acquitted. There was not the slightest grounds for suspicion in this case, excepting the manner in which the woman had been attacked, and the destruction of the stomach which was detected upon examination after death."

CHEMISTRY.

71. *Action of Brome and the Cyanuret of Brome upon the Animal System.*—M. Barthez, attached to the Military Hospital of the Royal Guard, has occupied himself with extensive researches for the purpose of ascertaining the effects of brome, hydro-bromate of potass, deuto-bromuret of mercury, and the cyanuret of brome, upon the animal economy.

From his experiments with the first and last named of these four substances,

he has drawn the following conclusions: 1st. Brome completely dissolved in distilled water, and injected into the veins, produces death in doses of ten or twelve drops, by coagulating the blood, without affecting the nervous system. 2d. Introduced into the empty stomach, the œsophagus being immediately tied, it causes death in three or four days; whilst if the stomach be filled with aliments, this substance is converted into the hydro-bromic acid, the poisonous effects of which are infinitely less active. Should the œsophagus not be tied, it will require from fifty to sixty drops to cause death, and care is still necessary to prevent its being rejected soon after being taken. 3d. Brome taken in an infusion of coffee, and swallowed before it has had time to be converted into bromic acid, will equally cause the death of the animal. 4th. Brome introduced into the stomach of a dog, in the dose of fifty or sixty drops, produces death, unless soon followed by vomiting. 5th. It has a strong analogy in its operation with iodine, and consequently ought to be placed next to it in the scale of irritating poisons. 6th. The cyanuret of brome ought to be ranged, like the cyanuret of iodine among the narcotico-acrid poisons. 7th. Injected into the cellular tissue in the dose of five or eight grains, it produces mortal symptoms, without however, always inducing death. 8th. Introduced into the stomachs of dogs, it only causes death in doses of four or five grains, and the dose requisite to kill a rabbit, under similar circumstances, is infinitely less.—*Archives Générales, Sept.* 1828.

72. *Reduction of the Sulphuret of Arsenic.*—M. Berzelius points out the following as one of the most certain means of ascertaining the most minute portions of arsenic contained in the precipitate obtained by the hydro-sulphuric acids and the hydro-sulphates. The precipitate is to be enclosed in a glass tube, stopped at one end, about four or five inches long, and of the calibre of a large quill. This tube is to be warmed by a lamp of alcohol, over which it is to be held obliquely in such a manner as that the flame will be directed immediately above the part where the substance to be reduced is placed so that the vapour of the sulphuret of arsenic will be obliged to pass this heated point: after this, if the vapour passes slowly it will be completely decomposed. The sulphurous acid produced will disengage itself and the arsenious acid be deposited on the sides of the tubes. The tube is drawn out *(étire)* after being heated, the arsenious acid is pushed into the portion of the tube drawn out *(étirée)* and by heating it, it is made to pass in vapour upon burning charcoal, which effects its reduction. Charcoal in lumps is to be preferred to the powder as the latter is dispersed by the heat.—*Journal de Chem. Méd. Sept.* 1828.

MISCELLANEOUS.

73. *Constitution of the Year.*—"When Sydenham treated of the constitution of the year, he meant an epidemic, or a certain morbid condition of the human body as an effect, from a certain state of atmosphere as a cause, which he termed the constitution or disposition of the year. The effect was a matter of observation, and certain: the cause admitted of disputation."

"If Sydenham had flourished in this era he would have termed the constitution of the years 1825, 6, 7, and 8, intermittent, and it has been combined with an unusual degree of neuralgic affection, from hemicrania to the most intractable forms of tic doloureux. A similar combination of disease took place in the year 1809, but has not prevailed for a quarter of a century to the extent which it has done during the last two years. It commenced in the spring of 1825, having been preceded by an unusual humid autumn, during which the north of Europe was flooded to a very alarming extent. It was ushered in by a very fatal peritonitis, both simple and puerperal, in the human subject, and by a still more destructive wet rot amongst sheep. A wool merchant informed

the editor that during an experience of forty years, he had never known it so fatal: he estimated that a tenth of the sheep throughout the kingdom died. But the destruction in particular situations was excessive. A resident near Romney Marsh informed him that some of the farmers lost all their flock; he named one who had lost twelve hundred sheep. It was at the end of February in that year, (1825,) that an experienced surgeon at the west end of London said to him, that he had lost four patients in the puerperal state during that month, of what appeared to him to be peritonitis previous to the post mortem examination, which did not explain to his satisfaction the nature of the disease, he having found, in two of the cases, only a little bloody serum extravasated into the peritoneum. He added, that he could not understand it, and was persuaded that more would be heard of it. His prediction was verified. At the east end of London, not far from the river, this disease proved still more fatal during the month of March. One surgeon informed the editor that he had lost seven, another four, in all of which the disease was treated at the instant of its formation by active blood-letting. A physician-accoucheur, who attended in consultation many of these cases, stated to him, that out of thirteen cases, eleven died, that all which had been bled died, and that the only two which recovered had not been bled, having been treated by turpentine. The summer proved remarkably dry and hot: during July not a drop of rain fell in London. The intermittents commenced with anomalous inflammatory affections, lapsing into continued fever, and sliding into a quotidian or tertian type, rheumatism, subject to dangerous metastasis, erysipelas of an untoward kind, and some cases of malignant sore throat, which had not occurred for a long period before. The autumnal season was humid, and the continued fevers, falsely called typhoid, and approximating more to the remittent form, proved insidious, the fatal collapse occurring early and unexpectedly. The following summer proved still more dry, there being scarcely any rain even in June, and not less hot, so that the pulse crop failed. The character of disease was less malignant, but the same type was still preserved. Puerperal peritonitis was much less fatal, but even in this year, one surgeon at the east end of the town lost seven women in a very few weeks, under a varied treatment. 1827 being rather cold and humid, intermittents, remittents, and neuralgic affections prevailed in their greatest extent; and to conclude in the language of Sydenham, the constitution of the year has not changed in 1828. This fatal peritoneal disease appears to have borne the same relation to peritonitis that the pneumonia notha does to pneumonia, not only in the serous, or sero-sanguineous effusion, instead of coagulable lymph, but also in the complete inability of the patient to bear the lancet. The editor's limits prevent him from pursuing this important subject further at present."—*Journal of Morbid Anatomy, &c. Vol. I. Part I.*

74. *Hydrophobia.*—"In a village near Posen, a pig, destined to be killed, was bitten by a rabid dog. Some time after, symptoms of hydrophobia appeared in the animal. The proprietor, not wishing to let it die naturally, killed it, salted the meat, and he and his family ate it in a few weeks. Long time after this, Dr. Suttinger, the medical attendant of the family, having heard of this circumstance, went to see them, and found them in perfect health, and perfectly tranquil about the issue, for they had an idea that there was no danger in eating any part of the animal, except the head, and as they had cut this part off, and buried it, they thought that they had nothing to fear. All the members of this family have continued well ever since."—*Lond. Med. and Surg. Journ. September*, 1828.

AMERICAN INTELLIGENCE.

Account of a Singular Spasmodic Affection of the Respiratory Organs. By R. J. Clarke, M. D. of New Orleans.—The young lady whose case forms the subject of the following report, was, at the time of the first occurrence of the uncommon symptoms to be detailed, in the twelfth year of her age, of extremely fair skin and hair, light blue eyes, tumid upper lip, and lively temperament, with other marks of strumous diathesis. She had suffered in Philadelphia in the winter of 1825, with an attack of influenza, which left her in a state of great debility, with cough and expectoration so protracted as to excite apprehension of her sinking into a pulmonary affection, and of which she only recovered after some months enjoyment of country air and a milk diet. After this she had enlargements of the submaxillary glands, on each side, which suppurated slowly and left chronic tumefactions, continuing to discharge a thin purulent secretion for a considerable time. In the fall of this year she was brought out to Louisiana, with the hope that a warm climate, of which she was a native, would dissipate the apparent tendency to scrofulous affections, and through the winter her health improved. To the glandular enlargements the hemlock plaster was applied and worn for some time, under which treatment they gradually healed and nearly disappeared. Immediately subsequent to this, in the month of May, 1826, she was attacked with a mild remitting fever, and it was in the lingering and imperfect convalescence which followed, that the first manifestations were observed of the singular train of symptoms with which she continued so long afterwards to suffer. The first complaint that attracted attention was a slight but constant pain in the head, accompanied by an occasional disposition to vomit, particularly in the morning, great loss of appetite, and general listlessness and dejection. In June, she went into the country, but here getting gradually worse, in August was brought back to town, and placed under the joint care of Dr. Heermann, of the United States Navy, and myself. At this time she still complained of pain only in the forehead. The efforts to retch were now, however, frequent, and afterwards became nearly continual, though with no ejection from the stomach. The bowels were generally constipated, while in the state of the pulse and skin, with the exception of a slight loss of tone and general relaxation, no derangement was to be remarked. An emetic had been administered without any relief, and some active cathartic doses were now given, consisting of a combination of aloes, calomel, and scammony, in the selection of which articles we were influenced by the impression that the symptoms probably derived their origin from the irritation of an incipient uterine development. To relieve the head, leeches were also at this time applied to the temples and behind the ears; but no benefit accrued. The retch, or noisy effort to vomit, gradually and imperceptibly changed into violent spells of spasmodic coughing, attended with convulsive movements of the whole muscular system. They were entirely involuntary, the subject of them declaring that she was without the power of exercising any control over them whatever, and that they came on without any sensation of tickling, pain, or oppression, which usually precede an ordinary cough. There was, in fact, no consciousness on her part of any irritation that could excite them; they were not attended with any expectoration, and by an examination of the fauces, we were satisfied that there was no elongation of the uvula, or any other perceptible source of irritation existing there. From this time the spells increased in frequency and duration until they became nearly constant, occupying in each distinct paroxysm from five to ten minutes, while the intervals were by no means so long, and thus continuing from the moment of

awaking in the morning, until, under the influence of opium or some other powerful narcotic, or in mere exhaustion, the unhappy sufferer would fall asleep, when there was always an entire suspension of the disease.

The sound emitted in this singular affection was observed to be extremely different from a common cough, the occasional occurrence of which in the intervals affording us an opportunity of remarking the distinction; nor was it at all like that of pertussis, but was produced by the expulsion of air in short and continuous spasmodic contractions of the respiratory muscles without any participation in the movement on the part of the pharynx and lips, while in the intervals the voice and respiration were altogether unaffected. About the 8th of September the paroxysms had arisen to an excessive degree of violence. They were attended with general muscular spasms and a partial or entire suspension of the action of the heart and arteries, and the distress of our patient seemed to have reached the utmost aggravation compatible with existence. Up to this time, as has been stated, we had been able to procure her some hours exemption every night in sleep, but the remedies employed in effecting it could no longer be retained on the stomach; they had in fine become odious to her, and she besought us in preference to let her cough. Thus the last day and night had passed without an interval of ten minutes duration, and every moment appeared likely to terminate her sufferings. All the most powerful antispasmodics had been given in enormous doses; the warm bath as well as cold affusions had been used; the chest, both anteriorly and behind, had been covered with vesicatories, and farther than has been stated without even temporary alleviation; when, while under the use of prussic acid in large doses, she suddenly sunk into a state of great prostration, and it was presumed she was dying. Vomiting spontaneously, she threw off a considerable quantity of white mucus, of some consistence, and in globules, and the cough entirely ceased. As nothing of the kind had been discharged before, though she had often vomited freely, it excited some attention, but we were afterwards corrected in the consequence we attached to it, by the circumstance of its being occasionally discharged in subsequent attacks, without being followed by the same relief. From this state of prostration she slowly revived, and on the succeeding day there was a degree of reaction amounting to considerable fever, which gradually subsiding in two or three days more left her quite well.

Subsequently to this she had four distinct attacks of a similar character, at first occurring with some regularity every month, then an interval of two months elapsed, and prior to the last attack, which occurred in May, 1827, a much longer respite was enjoyed of nearly four months. In each of the returns of this affection it was attended with nearly the same symptoms as have been at length detailed, except in their onset, which, after the first, was invariably sudden and unexpected; not preceded by any premonitory retching, but seizing her in the enjoyment of a perfect exemption with the suddenness of an attack of spasmodic asthma, running up rapidly to the extent of its violence, and after a continuance of seven or eight days leaving her with the same abruptness. There was now, too, a complaint of pain in the breast, not felt at first, not acute or severe, but nearly constant and referred always to the upper part of the sternum. In the intervals, at first, she enjoyed perfect relief, immediately recovering her vivacity and appetite, and, as far as the restraint which was imposed on its indulgence admitted, her strength and appearance. But for some time previous to the last paroxysm, she was observed to be affected every morning on awaking, at whatsoever hour that might be, with a slight spell of coughing of the same peculiar character, lasting at first a few seconds only, but gradually increasing in duration up to the time of the last attack, until it occupied thirty or forty minutes, after which she was always entirely exempt for the remaining twenty-four hours. In the same manner she continued to be affected after the attack of May, but in a much slighter degree, the paroxysm being reduced to a few moments continuance, and not manifesting any disposition to increase. What is not a little remarkable among the circumstances of the case, was that

in the course of the winter she was once affected with a common catarrh, a disease of general prevalence among us at that season, without its aggravating in the slightest degree the spasmodic affection of the morning. She was watched with anxiety, but the defluxion from the nose and eyes, with the ordinary cough and hoarseness, all passed off, without having become implicated at all with the distinct symptom which was the subject of our concern.

The result of the measures which were pursued, in the treatment of this embarrassing case, does not, it must be confessed, throw much light upon its nature. During the existence of the paroxysms, the most powerful antispasmodics were resorted to, and administered in doses, which, under less pressing circumstances, would not have been hazarded. The insensibility to their ordinary influence, could be paralleled only by the state of the system in tetanus, and certain other diseases of high nervous irritation, and was another feature of the case worth remarking. Opium, the extract of cicuta, and prussic acid, were the articles in succession, freely employed, the last of which, it was thought, was attended with more benefit, and less distress, than any other antispasmodic medicine which had been used, but yet, with very partial relief. The complaint of pain in the breast early led to a free detraction of blood by leeches, and in one attack attended with unusual febrile action, venesection was carried to the extent of an alarming syncope, but though moderating its violence, it did not abbreviate the usual course of the paroxysm. During the intervals, a seton was at one time worn in the breast for three months, she was subjected to a course of emetics, consisting of ipecacuanha, and the sulphate of zinc, and, after the attack of January, its more inflammatory character induced the adoption of a vegetable diet, and free exercise in the open air. Whether beneficially influenced by these measures or not, our patient evidently improved. The paroxysms became milder, and the intervals considerably longer, while there had been for some time, a gradual improvement in her general health, which relieved us from the natural apprehensions at first entertained, and inspired us with a hope that her singular disease was gradually passing away. As it had, however, been in the previous warm season, that she had fallen into ill health, it was thought prudent to remove her, during the approaching summer, from a climate where she had suffered so much, while, some general benefit was anticipated from a sea voyage, and sea bathing. Previous to her departure, and while engaged in transcribing some notes of the case, I took occasion, for my further satisfaction, to inspect again the state of the fauces. For this purpose, I called her, in the presence of her family, to a window, that I might have the benefit of a strong light, and after explaining to them my object, examined her throat with great care, but nothing not perfectly within the natural and healthy organization of the parts could be discovered.

During the voyage, according to information derived from her elder sister, who accompanied her, she was affected with an ordinary catarrh of some severity, which, as in the previous instance, run its course without either aggravating or interrupting the short spell of spasmodic coughing with which she still continued to be affected on awaking. On her arrival in Philadelphia, immediately after a distinguished professional character was consulted, who, on examining the throat, discovered now an elongation of the uvula, and conceiving it to be the probable cause of the extraordinary symptoms which were described to him, but which he happily had no opportunity of witnessing, at once removed it. The operation is understood to have been succeeded by some tumefaction of the surrounding parts, on the subsidence of which she was found to be relieved of the morning cough. Since then more than twelve months have now elapsed, the natural changes incident to her period of life have been established, and she has never had any return of her singular affection.

Subsequently to the occurrence of this embarrassing case, believed at the time to be almost unique, an account has been observed in a short analysis with extracts of a recent publication of Mr. C. Bell, styled "Appendix to Papers on the Nerves," in the twelfth number of the Medico-Chirurgical Review, of some

curious instances of disease in young females, which, though not very particularly detailed, would appear, by all their important characteristics, to have been identical with the case which forms the subject of this report. There is also a reference to another remarkable instance of the same affection, said to have been recorded some time previously, for which, however, we have in vain searched through a long series of the Review. Of the nature of these singular cases, but one opinion seems to be entertained by Mr. Bell and the accomplished editor of that Journal—that it is an affection of the nerves influencing the organs of respiration—the most susceptible, as it is stated, of the system, derived primarily from the irritation of the development taking place in the uterus and ovaria; and from the age and sex of all the individuals affected, as well as from the uniform result of the cases, a strong confirmation is derived of the pathological explanation they offer. To the author of this paper, as well as to his respectable colleague, it is but due to state that it was the first suggestion that occurred in the instance they were treating, and the fact that the restoration of their patient was very soon followed by the constitutional change which might have been earlier looked for, would seem to warrant them in offering the testimony of her case in support of the opinion referred to. A very different idea it is true, was entertained by the eminent individual who saw her in Philadelphia, in which he was naturally confirmed by the relief which followed the excision of the uvula from that remaining symptom of her disease so often alluded to, the spell of coughing in the mornings. To account for the elongation of that organ having eluded discovery on the previous examinations, it occurred to him that by a temporary contraction of its muscular fibres, it might have been at those moments removed from observation. But this suggestion could hardly be received, when it was recollected that those examinations were made at different periods of the disease; the first when the symptoms were in a state of the utmost aggravation, and the last, when they existed at least in as great a degree as at the time of the removal, by individuals, too, not unacquainted with the distress occasionally produced by an elongation of the uvula, and in this instance, extremely interested in discovering a cause for symptoms which they could neither explain nor relieve. It will also occur to any one familiar with the moderate degree of irritation ordinarily excited by the tumefaction and consequent projection of the uvula, so frequently attendant on a common catarrh, that the affection in this instance to have been capable of producing the horrible train of symptoms with the protracted distress we have detailed, must have been too considerable to have been removed from observation by any transient contraction of which that muscle is susceptible. But an attention to the phenomena of the case is, we conceive, sufficient to decide the impossibility of their having been occasioned by the mechanical irritation of a chronic organic enlargement. After the first paroxysm, which, it is true, came on gradually, but yet without any distress, which could be referred to the throat, all the succeeding ones supervened on a state of entire immunity with suddenness and violence, and in the same manner after a nearly uniform duration of seven or eight days, out of a state of the utmost aggravation, the relief obtained was always sudden, immediate, and complete. With this entire relief of all the symptoms, had they depended on the irritation of a projecting uvula, the cause that produced them must also have passed away; but so suddenly, and so entirely without any perception on the part of the individual affected, a serious elongation of that organ could not have been established, or if that were possible, it would not at least in the same abrupt manner, have been retracted and removed.

The slight cough of the morning which disappeared after its excision, it will be recollected, was a symptom of very late occurrence in the course of the disease, the intervals for some months having been altogether free from it. That an elongation actually existed at the time of the arrival in Philadelphia, cannot be questioned; the consequence, we believe, it can be as little doubted of the catarrhal affection of the voyage, nor would we be thought by any means disposed to impugn the judiciousness of its extirpation. The affection had been

obscure and protracted, and much dread was still entertained of its recurrence, an ample justification for the removal of a source of irritation quite adequate to form an obstacle in the way of a perfect recovery, however little agency it could have had in the original production of the disease. The immediate effect of the measure confirmed its propriety; yet while we acknowledge with pleasure the happy influence it appeared to exert in arresting the still lingering, though momentary paroxysms of the morning, we conceive the subsequent exemption from the severe attacks, cannot be considered but as one of those fortuitous coincidences so familiar to the profession, and which are so often suffered to establish erroneous views of disease, and to attach an undeserved importance to an inefficient or an inappropriate remedy.

To place on record a detailed and faithful history of this extraordinary case, we have considered a duty to the profession. Though happily not of frequent occurrence, it yet appears to have been by no means a solitary instance of the affection, and if little information is afforded as the means of controlling its frightful symptoms, it yields at least in connection with the more satisfactory account of Mr. Bell, the consolatory encouragement that in all the instances that have yet been reported, it has been harmless in its result.

New Orleans, December 9th, 1828.

Since the receipt of the above case, we have seen Dr. Physick. He informed us that in the letter which accompanied the young lady to Philadelphia, the doctor had advised a sea voyage and sea bathing, under the impression that it "might be an anomalous exhibition of scrofulous disease." After the cure had been effected by the excision of the uvula, the above history of the case was forwarded, in which he informs us that he had examined the throat but did not observe any elongation of the uvula, and influenced by some cases, as he states, detailed by Mr. Charles Bell, he inclines to the belief that the peculiar symptoms of his patient were owing to some irritation taking place in the development of the uterus and ovaria. He further undertakes to represent the cure of his patient "as fortuitous," and "of a nature calculated to establish erroneous views of disease, to attach an undeserved importance to an inefficient and inappropriate remedy." It is obvious that these are mere opinions of Dr. Clarke, brought forward after his patient was cured, and however ingenious this may appear to him, prove nothing respecting the cause of the complaint.

In the letter sent with his patient, it will be found that the disease in its first stage was attended with pain in the head, with retchings to vomit nearly constant, and that the gastric irritation was then considered as sympathetic of an incipient cephalic affection, and though treated on that principle, no advantage was derived. "The retchings gradually changed to a convulsive cough, altogether involuntary and uncontrollable, and conveying an impression as if *something obstructed and irritated the organs of respiration.*"* It is pleasing to observe how nearly the doctor came to the true cause of his patient's disease. Dr. Physick asserts that the uvula was elongated when he examined it in Philadelphia, but that it was neither inflamed, swelled, or altered from its natural state, except in length, and exhibited no appearance of what it seems Dr. Clarke, looked for, "a chronic organic enlargement." The unnatural length of the uvula, Dr. Physick attributed entirely to a diminished action of its azygos muscle not supporting the organ sufficiently. Dr. Physick informed us that he had met with the organic enlargement looked for by Dr. Clarke, but *that* was not its condition in this patient; so far from being enlarged, it was, if any thing, more slender than common in its transverse diameter. Though Dr. Clarke did not discover the elongation in this instance, the same difficulty in detecting its existence has occurred to other physicians in this city owing to a temporary retraction taking place at the time of the examination.

Dr. Clarke admits that when his patient arrived in Philadelphia, the uvula

* See page 263 of the American Journal of the Medical Sciences, No. II. February, 1829.

was elongated, and attributes the occurrence to a catarrh taken on the voyage; but this cannot be admitted, inasmuch as the organ was not enlarged, swelled, or inflamed, but was found more slender than usual. A common slight catarrh is not frequently productive of an elongation of the uvula, and whenever the inflammation of the mucous membrane in that disease becomes so violent as to have that effect it always produces the painful deglutition which attends what is commonly called a bad sore throat, but no such symptoms are mentioned by Dr. Clarke, as having existed when she was affected with catarrh in New Orleans, and nothing of that was mentioned as attending her cold on the voyage; it was but a slight cold. Besides her cold had ceased when she arrived, and even if the uvula had been somewhat inflamed during its continuance, which from the above considerations is highly improbable, the inflammation and swelling had entirely subsided when Dr. Physick examined the throat. The vomiting in the commencement of this disease is another circumstance that may be satisfactorily understood as arising from the elongated uvula irritating the pharynx, as a feather or the end of the finger produces that effect when placed there. In confirmation of this explanation, Dr. Dewees has lately informed Dr. Physick, that he but a short time since attended a lady distressed with the same kind of vomiting, which resisted all the anti-emetic remedies he prescribed, but which was cured very speedily by an astringent gargle, ordered as soon as he found by examination that the vomiting was owing to the elongation contended for. In this case of Dr. Clarke the disease commenced after a remittent fever, by which we know the strength of muscular action is always more or less diminished throughout the body; why this was to a greater degree in the muscle of the uvula than in others in the same person, we cannot explain; but the occurrence of such a condition in particular muscles is not very uncommon besides in that of the uvula; we not unfrequently see the levator palpebræ superioris in the same condition, preventing the patient from opening the eye, so that the fact is proved, that single muscles sometimes have their power of contraction thus diminished, without the immediate cause being apparent. On this principle the morning cough is easily explained. The muscular system during sleep is always relaxed to a greater or less degree. The uvula from the previous weakness of its muscle, of course descended, and irritated the glottis, but on rising, that muscle, along with others of the body, being roused into action, the cough occasioned by its previous descent was of short continuance. Again, if the violent fits of coughing were owing to a strumous condition of the system, or had their origin from the supposed sympathy mentioned by Dr. Clarke, the morning cough was also attributable to the same causes, for according to the doctor's express declaration, this morning cough had the same peculiar character. Now we would ask whether it is possible for the operation of snipping off a small piece of the uvula, to cure struma, or to remove the imagined sympathy? The voyage certainly did neither, for she brought that cough with her, which never ceased until the operation removed it almost immediately, and from the lapse of time since it appears it effected a permanent cure. No doubt the temporary abatements and returns of the more violent states of this complaint arose from the more or less complete action of the azygos muscle in suspending the uvula. Much more might be added to prove that occasional elongation of the uvula was the whole cause of this young lady's sufferings; we shall only add at this time, that such a state of the uvula in producing a convulsive cough is now so generally known and acknowledged, that any further arguments seem to us superfluous. The effect of the operation is now *known* not to be *fortuitous*, nor does it lead to erroneous views, giving an undue importance to an inefficient and inappropriate remedy.—Eds.

Case of Diabetes successfully treated. By Samuel Jackson, M. D. of Northumberland.—During the last winter, Dr. Price, of Sunbury, requested me to visit with him Samuel Auchmuty at Shamokin Falls. This patient had been attended by the doctor during many months, and salivated for diseased liver, at-

tended with violent, dry cough. He was now greatly emaciated and unable to leave his bed; appetite voracious; thirst unceasing: cough troublesome at night and without expectoration; skin steadily dry, harsh, and dry; pulse about 90, and not in other respects very different from natural: his urine limpid, sweet, and passed to the amount of about five and six gallons every twenty-four hours. The diabetes had been coming on gradually for many months before it was mentioned to Dr. Price. The patient had been intemperate in the use of ardent spirits for two years previous to his sickness.

This was the first case of the disease I had been consulted in during a busy practice of sixteen years, and therefore it may be readily presumed that I was by no means *au fait* in the business, or prepared to advise in this difficult matter. But adverting to the vicarious functions of the skin and kidneys, we quickly agreed that the perspiration ought to be restored if possible. This indication was both physiological and practical, having been found useful by Dobson, M'Cormick, as we may learn from Mason Good. To attain this end we directed the patient to take Dover's powder every evening as freely as his stomach would bear it, and at the same time to put his feet for *several hours* into a tub of hot water under the bed clothes, while he lay extended on his back and well covered. He was directed to live almost wholly on animal food, and entirely without vegetables; to drink as little as possible, and in fine, to avoid every thing which could impose labour on the kidneys.

The simultaneous use of the powder and bath had the desired effect, producing a free and comfortable perspiration, not one feeling of which he had known for many months; and in a very few days the skin felt more natural, the urine began to diminish a little, and the patient felt that he was certainly better. The previous prescription was continued, and we directed a tonic mixture of bark, ginger, and iron rust.

The patient improved so rapidly that he became rather careless, and did not persevere as rigidly with his remedies as was desired; still he continued to amend, till in two months his urine was reduced from five and six gallons in the twenty-four hours to about two quarts, and his skin was rendered natural to the touch, as also healthy in its functions. In fine, the cure appeared to be complete, the urine being of its natural colour, and the patient riding abroad with advantage, his thirst and morbid appetite gone, and his cough gradually wearing away as he recovered strength.

He continued to improve in his general health during the summer, but I am sorry to state, that he died without my knowledge of bilious fever in the month of September, and that no examination of the body was made. This unfortunate patient was yet fortunate in living to afford an instance of the triumph of reason in medicine, over blind transmitted empiricism.

It is very possible that the facility of cure in the above case was altogether owing to the long-continued and judicious use of mercury, which Dr. Price had instituted for the cure of the liver and lungs. This had most probably removed some lesions or morbid associations which would have proved a serious obstacle to the just operation of the diaphoretic and tonic remedies. It is worthy of notice, however, that the mercurial excitement had no tendency to cure the urinary disease; nay, the diabetes having begun before the mercury was used, increased steadily during all this time the medicine was in operation. Thus it is in many other diseases—mercury does not absolutely cure them, but it prepares the system for the curative operation of other medicines, or of nature herself.

Observations on a new preparation of Copaiva. By GEORGE W. CARPENTER, of Philadelphia.—Balsam Copaiva is admitted by all, to be one of the most nauseous and disagreeable articles of the materia medica. Disguised or mixed as it may be, its unpleasant nature is still manifest, and little, if at all diminished, communicating its nauseous taste, and its disagreeable odour to the breath, for several hours after each dose, and frequently acting as an emetic or cathartic,

and its effects are thus lost. From these circumstances, its use is frequently abandoned, in cases where it otherwise would be of the highest utility, and even where it is almost indispensable, and other remedies, much less efficient are substituted, thus protracting the cure

Since the introduction of this remedy down to the present period, it has ever been a desideratum to obviate these inconveniences, and it is a circumstance not less unfortunate and much to be regretted, than it is singular, that, amidst the rapid march of improvement and discoveries, (which forms a peculiar feature in modern chemistry, and pharmaceutical science,) an improvement in the exhibition of copaiva should so long have evaded the vigilant researches of the critical and scrutinizing chemist and pharmaceutist.

It affords me, therefore, much pleasure, to be able to inform the medical faculty, that I have succeeded in consolidating copaiva, to a consistence for forming into pills. The consolidated copaiva is the oil and resin united, and consequently, possesses all the properties of the balsam.

It may be made into four grain pills, and one or two pills taken three times a day, two pills are equal to thirty drops of the balsam; these pills may be taken without the least inconvenience, neither communicating taste, nor imparting odour to the breath, it is also retained without the least disquietude or uneasiness to the stomach, and I am informed by Dr. Rousseau, it does not purge in large doses.

This article differs very essentially from what is termed extract, or resin copaiva, being not in the least deteriorated in the preparation, nor at all weakened by admixture of any foreign substance, for the purpose of giving consistence. It is particularly recommended for its numerous advantages over the balsam, and all its preparations. As the oil of copaiva is an active preparation, it is the best mode of using this article; for, being united with the resin, it may be made into pills and taken without experiencing the nauseating taste of the oil; while, the oil alone cannot be taken, otherwise than in draught, which will subject it to the same inconveniences with the fluid balsam, having its disagreeable taste, with its unpleasant effects.

The Consolidated Copaiva is manufactured and sold at George W. Carpenter's Chemical Warehouse, No. 301, Market-street, Philadelphia.

Case of Aneurism of the External Iliac Artery, treated successfully by tying up the Vessel. By J. Randolph, M. D. I performed this operation on the 28th of October, 1828. My patient's name was George Hitner,—aged 46 years, by profession a printer. Rather more than two years before this time, he perceived, upon getting up one morning, a small tumour in the right groin, which then was not larger than a hazel-nut, and, upon being pressed, slipped from under the finger. Previous to this time he had enjoyed excellent health, and was accustomed to take a great deal of exercise. He did not pay much attention to this appearance till about June, 1828, when, being engaged in printing a paper for one of the medical journals of this city upon the subject of aneurism, he was struck with the similarity of his symptoms with those described in the paper, and was induced from this to suspect that he was affected with the same complaint. He now showed it to Dr. Bell, his family physician; who immediately pronounced it to be an aneurism, pointed out to him its nature, and advised him to submit to an operation for its cure. By this time the tumour had increased very considerably, and pulsated with great violence. Through the politeness of Dr. Bell, I first saw him in the beginning of October; and, upon examination, found the tumour situated in the right groin, extending below, and a little above Poupart's ligament; its longest diameter now measured about five inches, its shortest nearly four inches. In consequence of the patient's having recently suffered from an attack of intermittent fever, it was deemed proper to postpone the operation for a short time. On Tuesday, the 28th of October, at ten o'clock, A. M. I proceeded to the operation in the presence of Doctors Physick, Hor-

ner, Bell, Gillingham and Dunbar, and Mr. Dorsey, the patient having taken, two hours previously, fifty drops of laudanum. Having shaved the hair from off the pubes of the side to be operated upon, an incision was made, commencing about one inch within, and a line or two below the anterior superior spine of the ilium, and continued in a semi-lunar form within its convexity downwards, in the direction of Poupart's ligament, and terminating at the external abdominal ring. The whole extent of this incision was rather more than three inches. After carefully dissecting down to the tendon of the external oblique muscle, this tendon was divided, and the internal oblique and transversalis immediately presented themselves and were cut through upon the director. The finger was then passed down behind the spermatic cord, and the peritoneum slightly removed until the artery was felt distinctly, bounded on its inner side by the vein. I gently separated the artery from the vein with my fore-finger nail, and believing the artery, from its feel, to be in a perfectly sound state, I passed the ligature under it without the least difficulty, by means of Dr. Physick's needle and forceps; I now tied it as firmly as possible, and the pulsation in the tumour instantly ceased. Two small arteries were cut before exposing the tendon of the external oblique, which were taken up. The patient complained very little, during the operation, which occupied exactly sixteen minutes. The pulse, for several days previous to the operation was 80. A quarter of an hour before the operation it was 72; a quarter after, it was 64. At 4 o'clock, P. M. it rose to 76; at this time the temperature of the right limb was 90 deg. Fahrenheit, that of the left, 95 deg. Fahr. At 11 o'clock at night, the pulse was 80, full and regular. The difference in temperature between the two limbs continued about five degrees. The pulse continued about 80 throughout the night.

On the second day of the operation, I was pleased to hear my patient say, that he had enjoyed a tolerably good night's rest. The pulse at 9 A. M. was 76, and very regular. But little difference could be perceived by the touch in the temperature of the two limbs, although the thermometer showed it to be between five and ten degrees lower at the toes of the right than of the left: at the knees, the temperature was the same. The pulse did not rise above 80 throughout the day.

On Thursday morning, the third day after the operation, I found he had passed a good night; complained of nothing but fatigue from lying in one position; pulse throughout this day 75. Saturday, fifth day after the operation, I removed the first dressings, and found a considerable part of the wound united by the first intention: the granulations in the remaining part appeared quite healthy. The ligature was surrounded by healthy pus. As his bowels had not been moved since the operation, he this day took some rhubarb and magnesia, which was the first medicine given to him since the operation. On the twenty-second day, the ligature came away, and a few days after he was permitted to get up and walk about the room, which he was able to do with but little inconvenience. The tumour in the groin, is now very perceptibly diminished, and he walks about with great ease. I at first felt considerable apprehension lest the limb, in consequence of its being deprived of its usual quantity of blood, should become gangrenous, more especially from pressure, by its lying too long in one position: in order to obviate this, I had the position of the limb changed every hour. I also had a complete bed made for it of carded wool, which was changed whenever it became hard;—and at each visit I gently rubbed the parts about the heel and ankle with my hand, or a piece of soft flannel. In case any numbness existed, (and there was at times a slight numbness in the toes,) this always relieved it. The patient compared the friction of the toes to the winding up of a clock; he said they would run very well after the friction, until my next visit.

In conclusion, I would observe, that the great facility I had in passing the ligature under the artery by means of Dr. Physick's forceps and needle, confirms me in the opinion, that it is the best instrument ever invented for the purpose of tying up deep-seated vessels. I would also recommend, that the needle

should be made of steel, in which case, the surgeon will be able to push the instrument through the cellular substance surrounding the vessel without using his knife at all; by which means the artery need be but very slightly denuded, and the danger of the operation will be considerably lessened.—*North Amer. Med. & Surg. Journ. Jan.* 1829.

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Ulceration of the Kidneys.—Professor Warren has published in the *Boston Medical and Surgical Journal* some interesting cases of ulceration of the kidneys, with observations. The disease, he says, is of not unfrequent occurrence; but the obscurity of its symptoms causes it to be mistaken for disease of the bladder or urethra, and to the great distress, and even destruction of the patient, the treatment is directed to the urethra or bladder, instead of the real seat of the disease. Whether the disease is ever curable, Dr. W. knows not; the treatment, however, that he recommends, is venesection in the commencement, and afterwards the frequent application of leeches to the loins and perinæum; the warm bath; mucilaginous injections with laudanum, into the rectum; deep issues in the back over the affected kidney; mucilaginous drinks taken very copiously; the mildest regimen, and the constant use of opium.

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Transylvania University.—We are indebted to the politeness of the professors of this university for a catalogue of the officers and students in the medical department; from this, we learn with pleasure that the number of students is two hundred and three.

It is stated that the academical department is also in a very flourishing condition, under the care of President Woods. The number of students, including those in the preparatory school, is stated to be one hundred and fourteen.

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Dewees's Practice of Physic.—Dr. Dewees is preparing for publication a system of practical medicine. This work, we have the best authority for asserting, is not intended as a popular one, as has been announced, but for the profession. It will be strictly a practical book, divested as far as possible of theoretical disquisitions, and will contain the result of nearly forty years experience.

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Cazenave and Schedel's Synopsis of the Diseases of the Skin.—Messrs. Carey, Lea & Carey have published an excellent translation of the above work, which we do not hesitate to pronounce the best that has yet appeared on the diseases of which it treats.

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New Publications.—The second edition of Ellis's Medical Formulary, with numerous additions; and Arnott's Elements of Physics, from the third London edition with additions, are just published.

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MEDICAL INTELLIGENCE OF GEORGIA.

The Board of Physicians held their annual meeting at Milledgeville, on the first Monday in December. There were forty-four applicants for a license to practice medicine; forty of whom were licensed, twenty on the presentation of diplomas, and twenty after presenting theses, and passing an examination.

Dr. *John Walker*, of Madison, Morgan county, was elected a member to fill the vacancy of Dr. *Powell*, who had forfeited his seat according to a bye-law of the Board, and Dr. *Ignatius P. Garvin*, of Augusta, was elected in place of Dr. *Baber*, resigned.

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The Central Medical Society closed its meetings on the evening of the 5th December. The most interesting communication read before the society was on Malaria, or Miasma—its existence being altogether denied by the author, Dr. A. Jones, of Lexington, which gave rise to a great deal of discussion, which was continued for two evenings, without bringing it to a close.

The officers elected for the ensuing year, are as follows:—
Dr. *Henry Branham*, President.
Dr. *Thomas Hamilton*, 1st Vice President.
Dr. *Benj. A. White*, 2d Vice President.
Dr. *John Walker*, Corresponding Secretary.
Dr. *A. Jones*, Recording Secretary.
Dr. *Weems*, Treasurer.
Dr. *Gorman*, of Milledgeville, Orator.

The following new members were elected, viz.:—Drs. *Cooper*, of Columbia, *Lamar*, of Macon, *Joel Branham*, of Putnam, *Boswell*, of Eatonton, *Jones* and *Waddel*, of *Madison*, and *Waring*, of Savannah.

A code of medical ethics, recommended for the government of the profession throughout the state, was reported by Dr. Walker, Chairman of a Committee, appointed last winter. It was amended, adopted, and ordered for publication.

The following resolution, on motion, was adopted:—

Resolved, That the thanks of the society be tendered to Dr. *Jones*, for his oration, delivered before the society, on Tuesday evening, 2d inst. and that a copy be requested for publication.

A communication from Dr. *H. Hull*, was read before the society, on an endemic jaundice, which lately prevailed in Athens.

The society then adjourned till the first Monday in December, at 7 o'clock, P. M. 1829.

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NEW VACCINE REGULATION IN PHILADELPHIA.

The undersigned having been appointed vaccinating physicians, under a new ordinance of the select and common councils, respectfully announce to the medical public, that in addition to their other duties, they will keep a constant supply of fresh, genuine vaccine virus for the accommodation of the profession. By a provision in the aforesaid ordinance, they are obliged to furnish the city practitioners gratuitously, which they will at all times do with great pleasure. But owing to the great demand for virus from all parts of the country, to which, from their public position, they will necessarily be subjected, they have determined, after free consultation with their medical friends, to require a small remuneration for the extra trouble which they will incur by this arrangement. Applications, therefore, (post paid,) from any part of the United States, addressed to either of the undersigned, and enclosing three dollars, will meet with prompt attention.

DAVID C. SKERRETT, M. D.
No. 153, S. Tenth street.
WM. CARLL BREWSTER, M. D.
No. 150, S. Fifth street.

We cheerfully acquiese in the above plan, and have no hesitation in stating our belief that the duties it proposes will be faithfully executed by the vaccinating physicians.

PHILIP S. PHYSICK, M. D.
N. CHAPMAN, M. D.
WILLIAM GIBSON, M. D.
THOMAS C. JAMES, M. D.
ISAAC HAYS, M. D.
THOMAS T. HEWSON, M. D.
W. E. HORNER, M. D.
HENRY NEILL, M. D.
J. K. MITCHELL, M. D.
THOMAS HARRIS, M. D.

Philadelphia, January 6th, 1829.

Editors of other medical journals will please insert the above circular.

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